INPUT

OUTSOURCING INFORMATION SYSTEMS PROGRAM

COMPETITIVE ANALYSIS

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M&S 459/01 7/93

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OCTOBER 1993

INFORMATION SYSTEMS OUTSOURCING COMPETITIVE ANALYSIS

INPUT®

San Francisco • New York • Washington D.C. • London • Paris • Frankfurt • Tokyo

Published by
INPUT
1953 Gallows Road, Suite 560
Vienna, VA 22182-3934
U.S.A.

Outsourcing Information Systems Program
(OSP)

Information Systems Outsourcing Competitive Analysis

OVP • 436 • 1993

Exhibits

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IV

Exhibits (Continued)

IV

Exhibits (Continued)

Introduction

The information systems outsourcing market is currently one of the strongest growth markets in the information services industry. The successful agreements and relationships that have evolved over the past few years changed user attitudes toward the use of vendors as information systems providers. Rapid acceleration in technology and changes in the economic conditions of U.S. business have all had positive impacts on the outsourcing market.

The relationship of vendors to users began changing when buyers looked to vendors for systems integration help to take advantage of new technology more rapidly. Clients became more willing to entrust their major projects to third parties. Vendors successfully demonstrated they could provide expertise that many firms could not maintain in-house.

Some of these systems integration projects led inevitably to systems operations contracts. When the vendor had done a good job of developing and implementing the new system, the client believed the vendor should be able to provide ongoing systems operations also. Early success in outsourcing operations in these cases made the concept of systems operations--where the vendor provides services previously provided by in-house staff--more acceptable to companies that had not considered it before.

In other cases, the users decided to outsource existing operations either because they had to reduce capital expenditures substantially, improve their operating environment significantly, or move to a more distributed environment. In this last case, the client's existing operations were usually slated to be discontinued after the new systems were in place. This is known as transition outsourcing.

At the same time, vendors began to see increasing demand for the management of network operations and rapidly growing needs to provide management and service to the widely dispersed desktop environment that the downsizing phenomenon had created in so many organizations.

Outsourcing also solved other major client problems. Clients were losing the race to keep up with technology changes and to maintain the level and quality of staff required, particularly in light of this ever-changing technology. This was especially true in the federal government and in industries with narrow profit margins.

All of these factors have stimulated the demand for outsourcing of systems operations, but the extended downturn in economic conditions has heightened the need for many companies to reduce their information systems expenses. Many other companies have also undergone transitions in their information systems demands because of mergers and acquisitions.

A
Objectives

INPUT has been closely watching outsourcing trends and directions since the beginning and presents this report to examine the competitive structure of the outsourcing market. The report analyzes the current vendors' activities in the marketplace, projects emerging trends among vendors, and reviews other market issues.

The primary objective of this report is to present an accurate analysis of the competitive structure of the outsourcing market. To this end, the following goals have been established for this report:

- Identify the leading vendors in the outsourcing marketplace today.
- Describe how outsourcing is being offered and what trends in delivery modes are being provided by the vendors.
- Project how the leading vendors have performed in the market in the last three years.
- Identify emerging vendors and the markets in which they will most likely participate.

B
Scope and Methodology

1. Scope

This report examines the activity in the U.S. commercial and federal outsourcing markets. The vendors profiled represent both multi-industry vendors and some who have chosen to concentrate their activities in only one or two vertical markets.

2. Methodology

To examine how vendors are dealing with the emerging outsourcing market, INPUT conducted a survey of 20 executives in the major outsourcing vendors and some of those specializing in certain markets. The list of companies is contained in Exhibit I-1.

EXHIBIT I-1

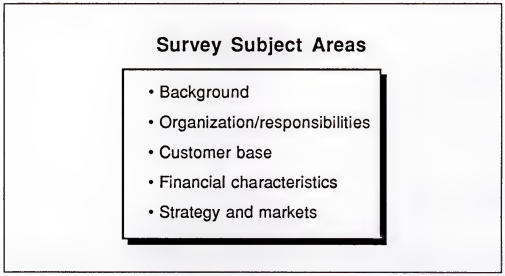
Companies Interviewed

Company Type	Company Name
Equipment Manufacturer	Digital Equipment ISSC (IBM) Unisys
Professional Services	Andersen Consulting Computer Task Group SAIC CSC SHL Systemhouse PRC Martin Marietta
Processing Services	EDS Genix Group Power Computing ISM ACS Systems & Computer Technology Ziff Information Services
Financial Services	FIserve First Data Corp. Systematics

The topics that were examined are outlined in Exhibit I-2. The results of the survey and discussions are a series of individual vendor profiles that are included in this report. As part of INPUT's continuing Information Systems Outsourcing Program, additional interviews will be conducted, and

profiles of additional companies will be added to this report in the course of the year as they are completed or updated.

EXHIBIT I-2



In addition to the individual profiles, the information gathered in the survey process was aggregated and analyzed to identify trends and issues relevant to the market.

C
Report Structure

This report is organized in the following manner:

- Chapter I, Introduction, acquaints the reader with the objectives of the report and outlines what is to follow.
- Chapter II, the Executive Overview, provides a summary of the contents of the entire report.
- Chapter III, Competitive Analysis, identifies forces that are driving the outsourcing market and identifies the leading vendors in this market. It also summarizes vendor strategies and market participation and compares them for vendors surveyed.
- Chapter IV, Vendor Profiles, contains the profiles for individual vendors. Additional profiles, as they are developed by the INPUT staff, will be sent to program clients for insertion in this report.
- Appendix A contains the vendor questionnaire used to obtain much of the research information used in this report.

D
Related INPUT Reports

For a complete view of the outsourcing and related information services market, readers are encouraged to review the following related INPUT reports:

- *Systems Operations -Growth for the 1990s* (1989)
- *U.S. Systems Operations/Outsourcing Market, 1991-1996* (1991)
- *Systems Operations Management Issues and Practices* (1990)
- *Network Operations Management, 1990-1995* (1990)
- *Systems Operations Buyer Issues and Alternatives* (1991)
- *Systems Management Priorities and Directions* (1991)
- *Systems Operations Vendor Analysis* (1991)
- *Case Studies in Downsizing* (1992)
- *Methods of Approaching IS Outsourcing* (1992)
- *Outsourcing of Network Management and Operations* (1992)
- *Strategic Assessment of the IS Outsourcing Revolution* (1992)
- *Outsourcing Desktop Services* (1992)
- *Interaction of Downsizing with Outsourcing* (1992)
- *Information Systems Outsourcing Market Opportunities 1992-1997* (1992)

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II

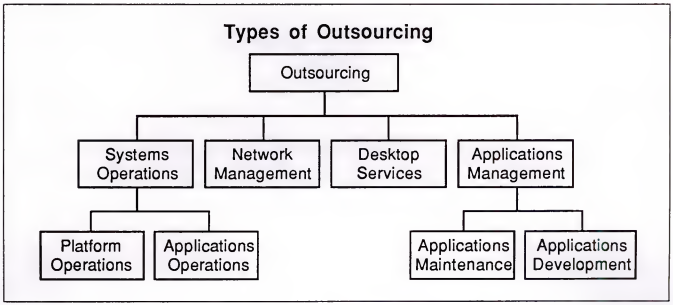
Executive Overview

A
Introduction

The information systems outsourcing market has been growing steadily since INPUT first recognized it as a separate IT market segment in 1990 and began measuring the market's performance. It was first measured in 1990 at $7.2 billion in user expenditures. INPUT estimates that the 1992 user expenditures for outsourcing are at $11.6 billion in 1992 and will grow to $26.5 billion in 1997, representing a compound annual growth rate of 18% for the five-year period.

The market has segmented itself into four distinct sub-modes as it has evolved, generally in response to the user demands for more and more varied services as the market matured. Exhibit II-1 graphically depicts how the market is subdivided.

EXHIBIT II-1



As shown in Exhibit II-1, the various IS outsourcing segments are:

1. Systems Operations - Contracting to a vendor the information systems operations in either of two ways:

- *Platform Systems Operations* - The vendor is responsible for managing the computer systems and their associated networks.
- *Applications Systems Operations* - The vendor is responsible for developing and/or maintaining a client's applications software as well as operating and managing the computer systems and their associated networks.

2. Network Management - Contracting to a vendor for the operations and management of the computer-related telecommunications network, transmitting data and text, voice, image, and video as required. Voice-only network operations are not part of information systems outsourcing.

3. Desktop Service - Contracting to a vendor for the deployment, maintenance, support, and connectivity of the organization's PC/workstation inventory. The service may also include performing the "help desk" function.

4. Applications Management - The vendor is responsible for the development and maintenance of all the applications systems a client uses to support a business operation.

- *Applications Development* - Contracting for the design, development, maintenance, and enhancement of new applications software associated with a business operation.
- *Applications Maintenance* - Contracting only for the maintenance of the existing applications software associated with a business operation.

B
Vendor Rankings

The leading U.S. outsourcing vendors were determined by combining the U.S. commercial and federal revenues for all vendors. Exhibit II-2 illustrates who the five leading vendors in the market are.

EXHIBIT II-2

Leading U.S. Outsourcing Vendors

Vendor	1992 Market Share (Percent)
EDS	14
CSC	5
ISSC	4
First Data	3
Digital	2

As is evident, the outsourcing market is highly dispersed. Only EDS commands more that 10% of the market. Its share is increasing slightly (up from 13% last year) in 1992. CSC is in second place by virtue of its strong position in the federal market in the past and the fact that it is also moving successfully into the commercial market. ISSC continues to increase its market share incrementally as they become more autonomous. Its newly formed subsidiary, Advantis, is likely to enhance its position in the outsourcing market also because it provides network management services to complement the platform and applications operations services that ISSC is already providing.

First Data Resources is a newcomer to the list only because its share of the market had gone partially unnoticed when it was more closely associated with its parent, American Express. Now that it is reporting separately, it is possible for us to more accurately assess its relative market share.

Digital has moved up from sixth place last year to fifth place this year. Its services-oriented strategy is resulting in more outsourcing business as it continues its transformation from an equipment vendor to a services provider. It has been particularly successful in the network management and desktop services areas, those two sub-markets that are growing the fastest. It does have some more traditional business also, mostly platform operations contracts.

C
Vendor Market Activity

INPUT had sufficient data to identify the leading vendors in eight of the 15 vertical markets recognized by INPUT. In most of the other cases, there is very little outsourcing activity at all or it is dominated by one or two major contracts and few vendors are identified as participants in those markets. The education, utilities and business services vertical markets are examples

of such markets. INPUT continues to watch these sectors for increased vendor activity.

Exhibit II-3 summarizes the findings in this area. Chapter III further expands the list of vendors in each of the identified markets.

EXHIBIT II-3

Top Vendors in Selected Vertical Markets

Market	Top Vendor	Next Vendor
Banking and Finance	First Data	EDS
Federal	CSC	EDS
State and Local	EDS	SCT
Manufacturing	EDS	ISSC
Insurance	EDS	First Data
Retail	ISSC	ACS
Telecommunications	ACS	Digital
Health Care	Shared Medical	First Data

The strong showing of EDS in many markets reflects its strategy to be a major player in a large number of vertical markets. CSC shows up strong in the federal market only at this stage because it has been historically the major provider in that market. First Data, newly identified as an independent outsourcing vendor since its partial disassociation from its parent, American Express, emerges as a strong market player, particularly in banking and health care. ISSC continues to enjoy a favored position in retail though there have been major wins by other vendors in the past year.

D
Vendor Characteristics

Vendors are arbitrarily divided into four categories by INPUT:

- Equipment Manufacturers
- Professional Services Firms
- Processing Services Firms
- Financial Services Providers

The categories are based primarily on the company's origins as an information technology supplier.

Though the variety of vendors in this market continues, there has been one group that has exited from the market. With the departure of Mellon Bank as an outsourcing vendor, banks have disappeared as a separate category. Citicorp, the only other major bank in the industry, sold its outsourcing operations to FIserve last year.

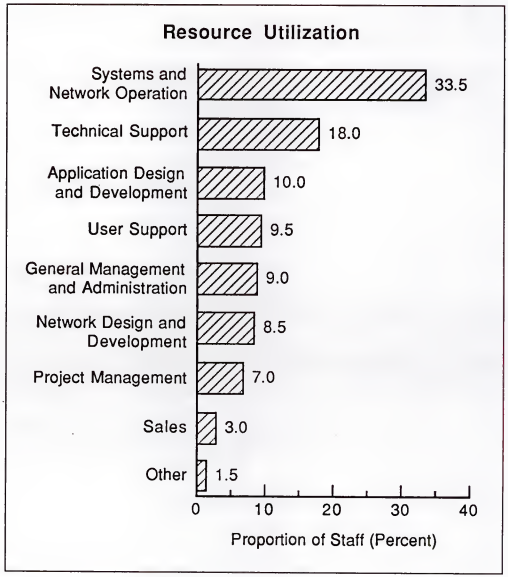
1. Profitability and Margins

Though most firms are unwilling to discuss profit margins, they are anxious to talk about positive revenue increases. Most vendors contacted indicated that their revenue increases were in the range of 12% to 35%. About 75% of these vendors also indicated they expected their commercial margins to increase.

2. Resource Utilization

All of the firms contacted assigned at least a third of their resources to the management of the client systems and networks that they are responsible for. Another 10 percent each were assigned to application development and user support work. Exhibit II-4 illustrates how all the resources are deployed on average.

EXHIBIT II-4



3. Pricing Strategies

The fixed price contract continues to be the most popular contract type reported by vendors. They expect this form of contract to represent over 50% of outstanding contracts by the end of 1993. These fixed price contracts are particularly popular with clients because they allow the clients to budget their IS costs over an extended period, bringing predictability to at least one part of a generally unpredictable phase of their business.

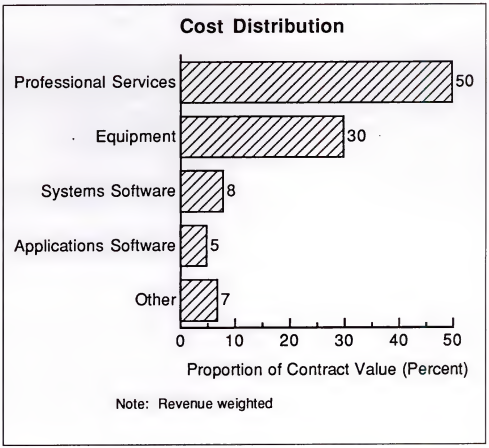
This same type of contract poses the most challenges for the vendor since it must be priced competitively initially to win the contract, yet must provide the vendor with opportunities to make a comfortable profit margin, either by improving operating efficiency or by changing the operating environment.

Contracts that are based on resource utilization continue to be popular also, though they will account for less than a third of outstanding contracts by the end of 1993. These are particularly popular for transition outsourcing arrangements, which generally are of shorter duration than those for more traditional outsourcing contracts.

4. Contract Cost Distribution

Exhibit II-5 indicates that about 50% of the cost to the vendor is for professional services and that the second major cost element is for equipment (about 30%). These elements are at the same level as in our previous survey. Both this chart and the previous one indicate that people continue to be the most critical resource which the vendors must carefully nurture and grow.

EXHIBIT II-5



INPUT expects that the "other" category will start to increase since it currently includes telecommunications and training costs. We will attempt to separately monitor communications costs in subsequent surveys. This category will move up as client organizations continue to be more geographically dispersed. It is likely that the equipment costs will go down as a percent of the total since the entire industry has seen such a rapid decrease in processing power prices.

E
Summary and Conclusions

The outsourcing market remains a healthy, profitable one for a wide range of vendors. Some who have participated in it for a long time continue to thrive (EDS and Systematics) while others are greatly increasing their commitment to it (ISSC and Digital).

1. Market Share

The diversity of vendors in the market indicates that a healthy, competitive environment exists. Except for EDS, no one vendor has a strong position in more than two vertical markets. There may be some consolidation in the next two years. This has already started among some of the more specialized vendors. For example, FIserve recently acquired the Basis division of First Financial Management.

EDS can be expected to continue to dominate for the foreseeable future. Four other companies are poised to steal some market share from them, however. CSC, ISSC, First Data, and Digital have the resources in place to increase their penetration of their selected markets.

2. Financial Outlook

The financial outlook for outsourcing vendors looks good, in their own estimation. However, certain segments of the outsourcing market, notably platform operations, are rapidly becoming a commodity market. Profit margins for this segment of the market will be correspondingly thin in the years ahead. Vendors are promoting applications operations, and desktop services in particular, to shift their client base to a more profitable mix of services.

Ultimately, the outsourcing of entire functions, labeled business operations outsourcing, offers the greatest potential for vendors to maintain their profit margins in the long run. Clients are still reluctant to do this in most industries, but certain functions are particular attractive as candidates for outsourcing and client organizations will begin this process in the near future.

3. Alliances and Partnerships

There will always be alliances and ad-hoc partnerships in place to allow vendors to provide a full range of services to their client organizations. These are entered into for the following reasons:

- To acquire technical or professional skills
- To lower operating costs

- To provide complete geographic coverage
- To acquire industry expertise

There are examples of large companies using smaller vendors to provide lower-cost labor to man data centers. There are examples of firms teaming with another in an alliance to provide needed industry expertise one of the partners lacked. Some vendors rely on regional vendors to supplement their own staffs, particularly in desktop services arrangements. In all cases both vendors are necessary to provide the cost effective service level required in the client's contract.

The vendor must be viewed as able to provide all services the client organization needs at little or no inconvenience to the users. Meshing several operating organizations together to look like one becomes a real challenge that the successful outsourcing vendor has to master.

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Competitive Analysis

The outsourcing market continues to perform as one of the major information systems growth markets of the 1990s. More major U.S. corporations are turning over the management and operations of their information processing infrastructure to vendors. Many mid-sized companies are seeing outsourcing as a viable alternative to increased investment in the changing IT requirements of their expanding organizations.

At the same time, traditional outsourcing vendors are positioning themselves to better participate in the rapidly changing outsourcing market. Some are adding user-required capabilities; others are shifting the focus of their marketing activities to different vertical industries or other services.

A
Vendor Classifications

To assist in analyzing and understanding the behavior and strategies of the outsourcing providers, INPUT has classified the vendors into four groupings as illustrated in Exhibit III-1.

This list is not intended to be either all-inclusive or exhaustive, but simply representative of the participants in each category of vendor.

Professional services firms originally entered the market either as a follow-on to software development or systems integration work, or as a natural outgrowth of other professional services work where they provided personnel to operate and manage client data centers. Ironically, another of their specialties, consulting services, is becoming an element of their revised marketing strategy as clients begin to depend more and more on their vendors for all IS-related functions.

EXHIBIT III-1

Outsourcing Vendor Classifications

Category	Companies
Professional Services	Andersen Consulting Computer Sciences Corp. Computer Task Group Perot Systems SAIC SHL Systemhouse PRC (Black & Decker) Martin Marietta
Processing Services	EDS Power Computing Genix Group ISM of Canada Shared Medical Systems Systems Comp. and Tech. ACS Commercial Services Boeing Computer Services May and Speh Ziff Information Services
Equipment Manufacturers	ISSC (IBM) Digital Equipment Unisys
Financial Services Providers	FIserv First Financial Mgt. Corp. Systematics First Data Resources SIAC

CSC, for example, is leveraging the experience and contacts of CSC Index and CSC Consultants to lead it into long-term outsourcing arrangements with clients of these divisions. Perot Systems has been singularly successful at turning systems integration engagements into outsourcing contracts. The management of the NCNB data center in Dallas, for

example, evolved from an earlier engagement to design and develop that data center.

Processing services firms began looking for new markets when their traditional timesharing and facilities management business began eroding rapidly as a result of increased PC usage and the increase of departmental computing. The next wave of downsizing, in which user departments are becoming increasingly responsible for the processing power and applications software, is completing the erosion of the remote processing market. Outsourcing offers processing firms many new opportunities for expanded market growth.

EDS still dominates this vendor category, of course. Its strategy is to provide a complete range of services to the client. By contrast, other firms in this category are still searching for the right strategy in many cases. Several have found transition platform or applications operations to be good interim strategies that will buy time in the marketplace.

Genix and Power Computing, have a significant amount of transition business. May and Speh, on the other hand, is looking for growth by allying itself with Ameritech. This relationship is still evolving and the outcome is not yet clear.

Equipment manufacturers are more recent arrivals to the outsourcing market, and are making their presence felt. These companies see outsourcing as a required strategy to maintain their position in the IS community by meeting their clients' changing needs and, in the process, protecting their channels of distribution.

ISSC has invested very heavily in the outsourcing market and has been generally successful. Its new venture with Sears Business Services, Advantis, has created a new dimension for the network management portion of the outsourcing market. Digital has also invested very heavily in resources in the outsourcing market and is particularly successful in leveraging its base of resources into successful network management and desktop services contracts. Unisys has had some initial success and continues to evolve its outsourcing strategy, focusing on vertical industries in which it has a recognized presence.

Financial services providers see the outsourcing market as a means of leveraging in-house expertise and equipment. They are expanding their range of services to other companies in the financial community. Recently, there has been evidence that these companies are beginning to provide the same services and an expanded set of services to organizations outside the banking and finance sector. Systematics acquired a major outsourcing contract in the health services market. Similarly, First Financial Management is divesting itself of Basis (selling it to FIserv), and plans to concentrate on the health care services business.

No discussion of the outsourcing marketplace is complete without a reference to the changing importance of the federal marketplace in the strategies of outsourcing vendors. Some of them—EDS, CSC, and Boeing Computer Services, from the list above—gained important experience and significant revenues in this market. Only Boeing continues to concentrate its efforts there. Both EDS and CSC have successfully moved much of their business away from the federal market, although they still derive a large portion of their revenues from that source. Because the federal government sector is projected to grow at only 13% in the 1992-1997 period, it is clear why these companies are focusing on commercial business. The commercial market is growing at an 18% compound rate. The other public sector market, state and local government, is growing at a healthy higher rate of 19% over the same period. More attention is now directed to promoting success in the state and local government sector.

B
Vendor Rankings

A look at outsourcing vendor market shares is presented in Exhibits III-2 and III-3. In the first exhibit, the overall ranking of the top five vendors is presented. Note that their shares include both commercial and federal government revenues. Exhibit III-3 lists the top five outsourcing vendors in the commercial segment of the market. It is interesting to see how the mix changes. CSC's recent insurance industry win in Australia would bring it into the top six worldwide if its position were based on worldwide revenues.

EXHIBIT III-2

Leading U.S. Outsourcing Vendors

Vendor	1992 Market Share (Percent)
EDS	14
CSC	5
ISSC	4
First Data	3
Digital	2

In order to become a dominant vendor, it helps to be a multi-industry vendor. However, there is also ample opportunity for industry specialists to capture a meaningful share of revenue. EDS, CSC, and ISSC are active across several vertical markets, including the federal market. Systematics has traditionally been active in the banking market, but has recently expanded into health care. Digital moved up into the top five vendors as its services strategy took hold.

EXHIBIT III-3

Leading Commercial Outsourcing Vendors

Vendor	1992 Market Share (Percent)
EDS	13
ISSC	4
First Data	3
Digital	2
Systematics	2
Digital	1

A market of which the leading vendor controls 13% and the top 6 vendors control only 25% is a healthy environment, offering plenty of opportunities for new and expanding vendors. INPUT believes that the users will strongly shape the market in the future as they demand more services from the vendor community. Users are more willing to relinquish control over IS operations so as to concentrate on their core businesses and reduce operating expenses. In return, vendors must demonstrate strong management skills, offer cost-effective solutions, adapt the operation to the changing client business requirements, and establish a long-term partnership in which both the client and the vendor can win.

C
Vendor Market Activity

Two sources of data were used by INPUT to identify the leading vendors in each of eight vertical industries. The contract awards data base maintained by INPUT and the vendor revenues reported for outsourcing activities permit an approximate ranking of the top vendors for a number of vertical markets. Exhibits III-4 to III-11 list the top vendors in each of eight vertical markets studied by INPUT. In some of the smaller markets, one major win can catapult a vendor up several ranks in a category. The rankings are based on 1991 revenue figures and do not reflect new revenue streams that

will begin to accrue to certain vendors in 1992 and beyond, as the result of large contracts won in 1992.

Exhibit III-4 lists the leading vendors in the banking and finance market.

EXHIBIT III-4

Banking and Finance Market Share

Vendor	Market Share (Percent)
First Data Resources	11
EDS	9
Systematics	8
SEI	7
SIAC	7
FIserv	6

In the banking and finance industry, First Data Resources—a division of American Express—leads, followed closely by EDS. In fact, the market leaders in this industry are rather closely grouped. One vendor does not overwhelmingly dominate. This is a very different scenario from other industries INPUT will discuss later. EDS is the only generalist in this category. All others are specialists in banking and finance, though First Data also has some penetration in the health services industry. Most of the participants are recognized as experts in their part of this industry and continue to grow at the market rate. FIserv has grown faster by aggressively acquiring companies in 1991 and 1992. Other banking vendors have been diversifying. First Financial Management has decided to concentrate on health services and imaging and is currently selling its Basis division to FIserv.

Exhibit III-5 lists the leading outsourcing vendors in the federal market.

EXHIBIT III-5

Federal Market Share

Vendor	Market Share (Percent)
CSC	17
EDS	11
Martin Marietta	6
Boeing Computer Services	5
BDM	4

The federal market has long been a lucrative market for systems integrators, but the outsourcing business has also been a factor. Certain agencies, such as NASA and EPA, have awarded mission contracts that are really outsourcing contracts. Other agencies, particularly the Defense Department, are more reluctant to turn over responsibility for IT functions to vendors. CSC, a major federal government services supplier, continues to be so, even as it diversifies successfully into commercial markets. EDS, by its sheer size, is also a major player in this market. The other three vendors in the list provide outsourcing services to the federal government. BDM recently set up a separate commercial division to concentrate on systems integration work. Boeing made a corporate commitment two years ago to concentrate on the federal market.

Exhibit III-6 lists the leading vendors in the state and local government market.

EXHIBIT III-6

State and Local Market Share

Vendor	Market Share (Percent)
EDS	17
SCT	2
CSC	2
Systemhouse	1

EDS is the obvious leader in the state and local outsourcing market by a significant margin among the larger vendors. Many small firms, with a regional or a local presence, are outsourcing vendors in this market. SCT is present in this market by virtue of leveraging highly-regarded administrative software contracts for state and county entities. Systemhouse is beginning to leverage successes in one state into contracts in other states. ISSC, though not yet on this chart, should move up as its state Medicaid management systems are replicated across many states.

Exhibit III-7 lists the leading vendors in the manufacturing market.

EXHIBIT III-7

Manufacturing Market Share

Vendor	Market Share (Percent)
EDS	18
ISSC	6
Digital	4
Power	2
Genix	2
CSC	2
Andersen	2

INPUT chose to combine the process and discrete manufacturing outsourcing revenues into one category for ranking purposes. Once again, EDS ranks first by a considerable margin. The company is a strong performer in both the discrete and the process manufacturing segments of this market. ISSC, building upon its strong hardware presence, has had some success during its relatively short life span. Digital is a contender for the same reason and is well-recognized as an IT vendor in the manufacturing market, particularly the process manufacturing segment. Genix and Power Computing both have always targeted the manufacturing market and are expected to continue to do so. Andersen has an outstanding reputation in the industry as a systems integrator but is less significant as an outsourcing vendor. This may change as applications management becomes a larger part of the outsourcing market share; Andersen is known for these capabilities.

Exhibit III-8 lists the leading vendors in the insurance market.

EXHIBIT III-8

Insurance Market Share

Vendor	Market Share (Percent)
EDS	18
First Data Resources	4
Policy Management	4
Warner Computing	3
ISI	3
CSC	2.5
Digital	1.5
ISSC	1.5

The insurance vertical industry is currently a much less active marketplace than the industries previously discussed. Once again EDS currently dominates, followed by several vendors who specialize in the insurance industry. Other larger vendors then follow. The latter part of 1992 shows some notable increases in activity, though often not by the current market leaders. CSC recently signed a $1.5 billion agreement with the largest Australian insurance company, and ISSC is reputed to be close to signing a mega-deal. As financial problems and staff reductions continue to be big news in this industry, larger outsourcing deals are in the offing.

Exhibit III-9 lists the leading outsourcing vendors in the retail market.

EXHIBIT III-9

Retail Distribution Market Share

Vendor	Market Share (Percent)
ISSC	20
ACS	14
May and Speh	4
NCR	4
National Data	3

EDS is not the market leader in the retail industry. ISSC has leveraged its strong presence in the retail distribution market and commands the most market share. ACS is currently a strong player in this market, although it seems to concentrate more on the banking market than on retail. Except for May and Speh, the other market leaders have a long history of business in the retail sector, much like ISSC. May and Speh may change its focus now because of a joint alliance with Ameritech, which does not have a strong presence in the retail industry. Martin Marietta may show up in this industry as a player next year. The company recently closed two retail distribution outsourcing contracts, one with JP Food Services and another with BKDA, the distribution division of Burger King. Martin Marietta's market share is getting stronger; it already has a contract with Monarch Foods.

Exhibit III-10 lists the leading outsourcing vendors in the telecommunications market.

EXHIBIT III-10

Telecommunications Market Share

Vendor	Market Share (Percent)
ACS	13
Digital	10
Cincinnati Bell	10
US West	10
Telos	6

To date, the telecommunications industry has not adopted outsourcing to any major degree. The exception to this rule is the cellular telephone component of the market. Unique cross-billing requirements have created opportunities for outsourcing vendors to provide this service. Both ACS and Cincinnati Bell Information Services have been well positioned to capitalize on this situation. Digital does well in this industry by virtue of its reputation as an equipment and systems provider. Opportunities in this industry will greatly expand as information services become more readily available across phone lines to household subscribers.

Exhibit III-10 lists the leading outsourcing vendors in the health care market.

EXHIBIT III-11

Health Care Market Share

Vendor	Market Share (Percent)
Shared Medical Systems	17
First Data Resources	13
EDS	7
HBO	7
CSC	3
First Financial Management	3
Perot	2

Both Shared Medical and First Data dominate this market because they have established specialized solutions for the health care market. HBO has a similar strategy, and First Financial Management is redirecting its organization to increase its health services business. Both EDS and Perot also do substantial health care business and should continue to be active in this market. EDS intentionally pursues this market, but Perot employs an opportunistic strategy and has only won two contracts in this area.

The recent Kaiser Permanente win by ISSC indicates that the potential for large contracts exists in this market.

D
Vendor Characteristics

The variety of vendors participating in this market was shown earlier, in Exhibit III-1. Not only does their primary business focus vary, the size of the vendor companies ranges from multibillion-dollar giants like EDS to smaller outsourcing vendors with total annual revenues of less than $50 million.

Trying to identify characteristics that are typical of outsourcing vendors is also difficult because of the wide dispersion in the market. Yet a compilation of the data gathered in the process of developing vendor profiles for outsourcing vendors does give some insight.

1. Profitability and Margins

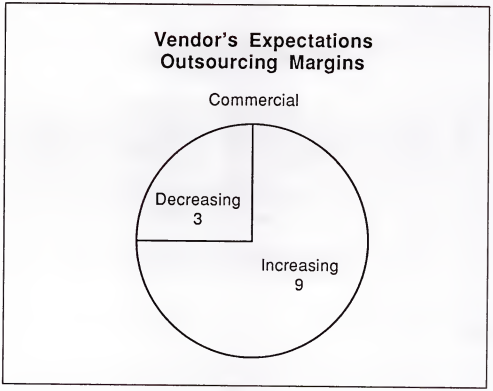
Although the majority of the companies in this study are not willing to disclose outsourcing profit margins, some did indicate revenue increases for the 1991-1992 period in the range of 12% to 35%.

Two reasons are cited for these increases. Many contracts are let for larger values, while pressures make the market more competitive and less profitable.

Exhibit III-12 illustrates the vendors' expectations for outsourcing margins.

Vendors provided INPUT with their estimates of compound annual growth rates (CAGRs) for the outsourcing market over the next five years. All but one vendor responded, resulting in an average CAGR of 19% for the commercial outsourcing market, and a CAGR of 10% for the federal outsourcing market.

EXHIBIT III-12



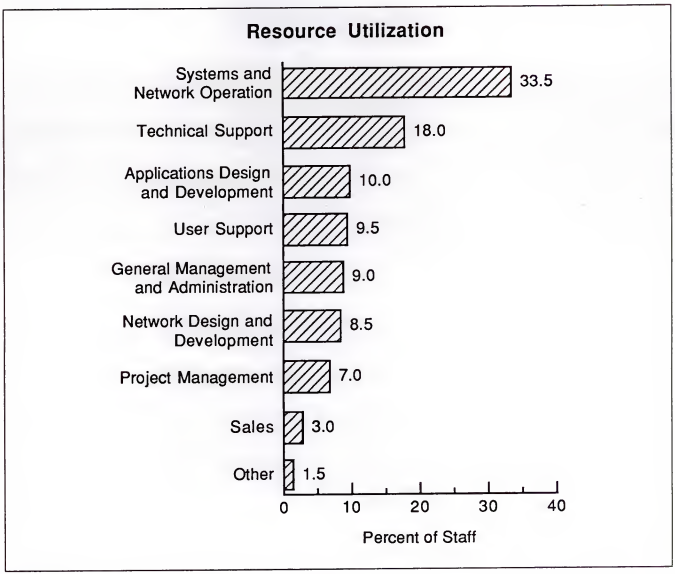
2. Allocation of Resources

Key staff capabilities are required by outsourcing firms. In general, professional services companies allocate more resources to project administration and management. This is probably because professional services companies are frequently involved in pre-engagement consulting during the problem identification phase of an outsourcing arrangement, which may involve some systems integration activity for the client. Other classes of vendors often find themselves responding to bids, not creating them. This up-front consulting capability is a strong leveraging point for professional services firms, although other outsourcing vendors are consciously developing their capabilities in this area.

In contrast, processing services firms are allocating more of their resources to application development, network design and development and technical support expertise—in effect, focusing their resources on the implementation end of the project life cycle.

All of the firms display a strong emphasis on systems and network operations, as well as technical support. All vendors allocate the bulk of their outsourcing resources to supporting systems and network operations. The percentage distribution of personnel for all major activities for the combined companies' functions is illustrated in Exhibit III-13.

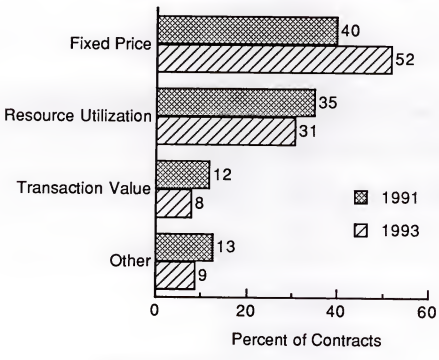
EXHIBIT III-13



3. Pricing Strategies

INPUT asked each vendor to provide an estimate of the percentage of its contracts that fall under a variety of pricing alternatives for 1991 and 1993. The largest share is based on a fixed-price contract and this trend is expected to continue. Exhibit III-14 summarizes the data.

EXHIBIT III-14



Note: Revenue weighted

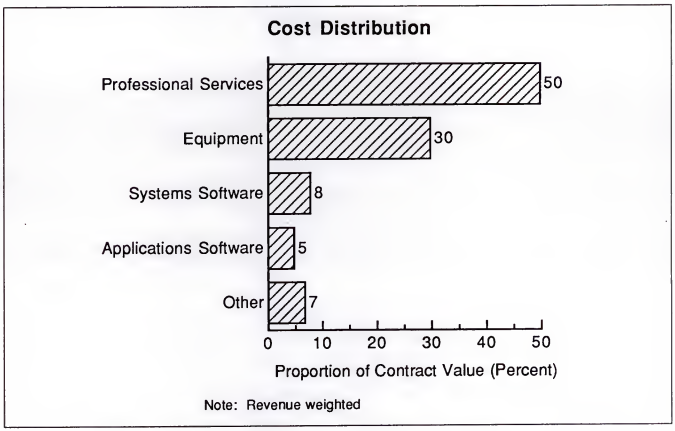
In earlier reports, the resource utilization model was the model of choice, but this has apparently changed and will continue to do so. In transition outsourcing contracts, the resource utilization model still holds true, but in more all-inclusive outsourcing contracts, fixed pricing appears to be the dominant mode. Clients indicate a preference for predictable, monthly expenditures for IS, so a fixed-price option is attractive to them.

As business operation outsourcing gains prominence during the coming years, the transaction value mode of pricing for outsourcing services is expected to grow somewhat in importance, though vendors are not unanimous in this conclusion. Also, some predict that the fixed-price mode will dominate these cases. INPUT agrees with this position.

4. Contract Cost Distribution

INPUT's questionnaire asked each vendor to provide a distribution of service costs for outsourcing contracts. The results are illustrated in Exhibit III-15. The results do not vary significantly from those reported in a previous survey. Approximately 50% of the contract value is for professional services. The "other" category, which includes telecommunications, training, and supplies, is expected to start inching up as client organizations become more geographically dispersed.

EXHIBIT III-15

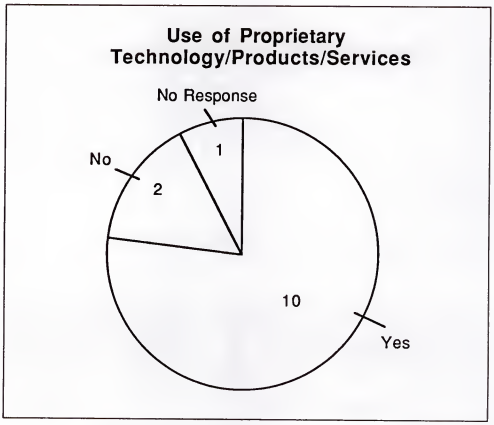


5. Use of Proprietary Products/Technologies

In addition to its internal capabilities and the strengths of its alliances, other advantages that a vendor may offer are proprietary technologies and products.

As shown in Exhibit III-16, 10 of the respondents indicated that they have proprietary systems operations technologies, products, or services, which give them a competitive advantage in the marketplace.

EXHIBIT III-16



Good examples of this phenomenon are such vendors as EDS, Systematics, and SCT. EDS has demonstrated its expertise in the manufacturing industry. Although substantial manufacturing market presence was evident early in its history, the company's acquisition by GM allowed it to transfer much of this expertise to the EDS side of the operations. Not resting on its laurels, EDS acquired the McDonnell Douglas manufacturing software division about two years ago. This careful nurturing of its manufacturing expertise was very important in its recent win at Bethlehem Steel. EDS is taking on all operational responsibilities, including shop floor control.

Systematics has invested heavily in developing its own proprietary banking software and has built a solid reputation in the banking industry. Systematics conducts a conscious campaign to recruit staff from the banking community. It has uniquely qualified itself to be a major vendor in an industry where knowledge of the client's business is of utmost importance.

SCT has used another route to position itself in the state and local government and the higher education markets. The company has purchased major software vendors in these industries, and leveraged its new position to influence outsourcing business. SCT recently acquired a utilities software company and is likely to initiate a similar outsourcing business strategy in that industry.

E
Summary

This chapter compares and analyzes the organizational structures, financial characteristics, strategies, and capabilities of outsourcing vendors who responded to INPUT's survey. In some cases, meaningful comparisons are made using the vendor classification scheme developed at the outset of this chapter. To pull these comparisons together, INPUT identified key differentiating points, and offers the following summary.

1. Organization

There is some variety in how outsourcing vendors organize to support their business. Individual divisions or organizational units dominate. INPUT believes that the organizational structures of vendors will change as they gain additional experience in the market. Organization, in itself, does not appear to be a significant differentiator between vendors today.

2. Financial Characteristics

INPUT's market forecast for outsourcing is reasonably aggressive. With a compound annual growth rate of 18% over the next five years, the outsourcing market should offer good opportunities for vendors. However, some findings from this research warrant ongoing observation.

First, most vendors active in the federal outsourcing market indicate that margins are decreasing. Pressure generated by concern over the deficit, coupled with keen competition, are key factors in this regard.

Although some characteristics of the commercial market are different from those of the federal market, commercial outsourcing firms need to watch margins carefully as they face increasing competition. They are liable to acquire client assets which must be managed carefully or disposed of if the vendor wants to remain profitable.

3. Market Share

The processing services companies still dominate the current market in terms of total outsourcing revenues. Market inertia allows them to continue to lead the pack. However, potentially declining margins for federal outsourcing contracts could make maintaining the lead difficult. Finally, vendors can expect increased competition from the growing numbers of professional services organizations, equipment vendors, and other organizations that are entering the outsourcing market to develop alternatives to other declining businesses.

4. Internal Capabilities and Alliances

It is difficult to make clear judgments as to how the four major classes of vendors compare on internal capabilities and vendor alliances. The questionnaire proposed eight skill/capability areas which may be keys to effective support of a vendor's outsourcing business. Questions also explored vendors' capabilities in these areas from an in-house and an alliance perspective. Clearly, not every vendor's strategy requires all eight capabilities, in general or specific projects. The individual responses can be found in the vendor profiles and are more illuminating than any summary of the capabilities.

5. Capabilities and Products

The array of capabilities that various vendors bring to the market is truly diverse. There is no one vendor that has it all. This is particularly true when considering the variety of potential outsourcing arrangements, which leads to frequent use of alliances for many vendors.

Technical expertise—including computer systems operations, network management, and desktop services support—are critical capabilities for vendors that intend to grow in the market. Clients weigh these capabilities heavily when selecting a vendor. Vendors have a higher probability of success when they participate in the applications development and implementation process.

In terms of products, proprietary products—particularly applications software products and operations management techniques—offer an advantage over the competition. Offering unique technologies and applications software and the ability to apply them can be leveraged to position the vendor to penetrate vertical industry markets.

Vendor Profiles

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COMPANY PROFILE

Acxiom Corporation

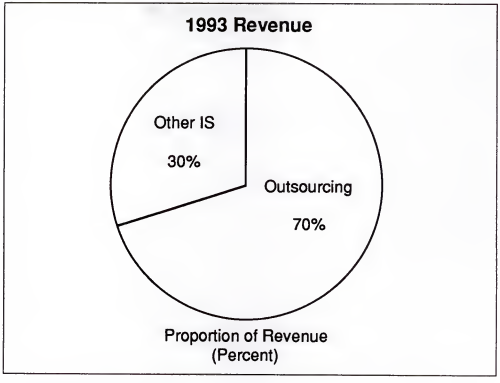
Acxiom Corporation
301 Industrial Boulevard
Conway, AR 72032-7103
501-336-1000
501-336-3932 (Fax)

Key Outsourcing Contact: James T. Womble
Title: Executive Vice President
Status: Public
Employees: 2,000
Total Revenue: $90.9 Million (FY 1992); $116 Million (FY 1993)
Information Services Revenue: $90.9 Million (FY 1992); $116 Million (FY 1993)
FYE: 3/31

1. Key Points

- Five new strategic client/partners in FY 1992
- Outsourcing accounted for 60% of the company's revenues in 1992, and is expected to be 70% in 1993, as shown in Exhibit ACX-1.
- A reputation built on developing and maintaining marketing data base information is now being extended to business operations and general data center outsourcing services.

EXHIBIT ACX-1



2. Company Description

Acxiom Corporation considers itself an information services provider that applies computer technology to make sophisticated direct marketing possible. It offers expertise in marketing data base development and management for direct marketing and Fortune 500 companies. The company prides itself on introducing the concept of "data base marketing to the industry." According to Acxiom, its core competencies are in three areas:

- Large data center management
- Software development
- Marketing information management

Outsourcing, in the form of systems operations contracts, and software development services are the company's chief lines of business.

The value-added services Acxiom can provide for marketing data base applications improve sales and marketing effectiveness for clients. The totality of what Acxiom offers its customers requires long-term relationships addressing both the operational and cost effectiveness sides of a customer's business. Designing, building, monitoring, and maintaining a marketing data base cannot be accomplished in the short term.

3. Financials/Revenues

Exhibit ACX-2 depicts the rise in outsourcing revenues for Acxiom over the past three years that has occurred as a result of the company placing more emphasis on providing full data processing services. The trends affecting the direct marketing industry are similar to those occurring in other business sectors. Increased competition and a slow economy are pushing companies to seek more cost-effective and productive ways of performing mission-critical applications that support their core businesses.

EXHIBIT ACX-2

Outsourcing Revenue

Year	Outsourcing Revenue ($ Millions)	Total Revenue (Percent)
1991	40	41
1992	60	66
1993	80	70

4. Market Financials

The majority of Acxiom's outsourcing revenue is evenly generated from contracts for platform and applications operations services. The distribution of outsourcing revenue for the company is depicted in Exhibit ACX-3.

EXHIBIT ACX-3

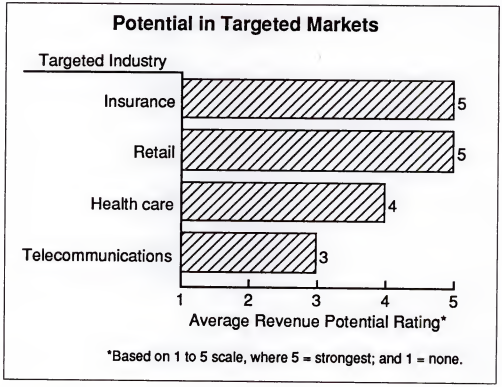
Distribution of Outsourcing Type

Outsourcing Type	Proportion of Revenue (Percent)
Platform Operations	35
Applications Operations	35
Network Management	10
Applications Development	10
Applications Maintenance	10

Acxiom estimates 65-75% of its customers start their relationship with Acxiom with contracts to develop and operate marketing data base applications, and then proceed to systems operations contracts.

Acxiom targets all companies that annually spend at least $3 million for data processing to support large volumes of consumer information. The industries with the highest revenue potential for Acxiom are listed in Exhibit ACX-4. In addition to these markets, the company focuses on developing business from the publishing industry and financial institutions. Acxiom is currently laying the groundwork to become a leader in providing health care solutions, and hopes to strengthen revenues from this market.

EXHIBIT ACX-4



Because of the specialized nature of Acxiom's products and services, opportunities to exploit core competencies have not existed in the federal sector. However, should a natural fit develop, Acxiom would certainly pursue it.

Acxiom aims to get repeat and additional business from its customers. Exhibit ACX-5 illustrates that 50% of the company's current outsourcing business comes from existing customers.

EXHIBIT ACX-5

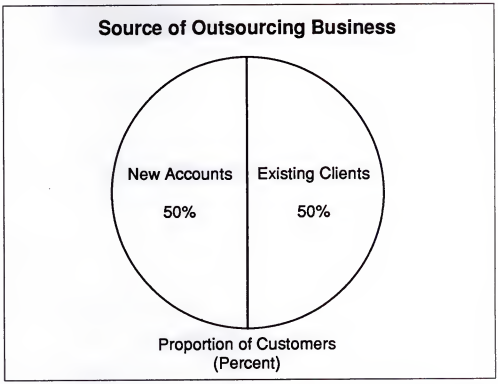


Exhibit ACX-6 shows how new business is generated. Direct sales efforts account for 50% of the outsourcing contracts. The data also suggests additional business from existing clients is generated in one of two ways: by responding to new bid requests or by an informal request from the customer for additional Acxiom-provided services.

EXHIBIT ACX-6

Source of Potential New Contracts

Source	Proportion of Customers (Percent)
Responding to new bids/RFPs	20
New contracts with existing clients	30
Proactive direct sales	50

5. Geographic Markets

U.S. sales offices are located in New York (NY), Chicago (IL), Washington, D.C., Dallas (TX), Denver (CO), and Atlanta (GA).

U.K. sales and support operations include locations in London and Sunderland.

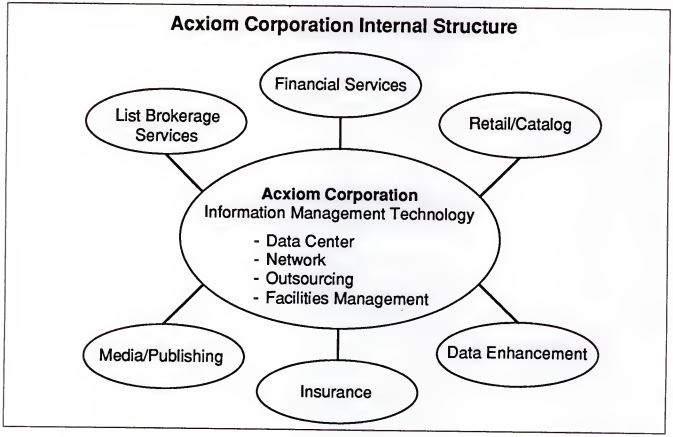
Data centers are located in Chicago, Dallas, Philadelphia, Carmel (NY), Marion (OH), and the U.K.

6. Operational Structure

Organizationally, the company focuses on creating work teams to service the needs of specific projects. Technical and operational talent assigned to a project one week may not be in the same position the next week. The company's internal structure is presented in Exhibit ACX-7. It reflects how work teams are brought together to leverage specific expertise for each customer's needs.

James T. Womble, chief outsourcing executive at Acxiom, reports directly to Charles D. Morgan, Chairman and Chief Executive Officer of Acxiom Corporation.

EXHIBIT ACX-7

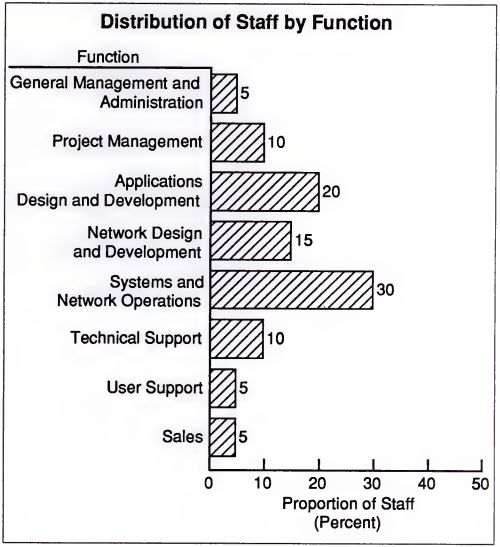


7. Employees

Seventy percent of the approximately 2,000 employees of Acxiom are involved in the company's outsourcing business.

In Exhibit ACX-8, Acxiom's staff is represented by functional responsibilities. The exhibit illustrates that the company allocates more personnel to functional areas that distinguish Acxiom in the marketplace—systems operations and applications expertise.

EXHIBIT ACX-8



8. Business Strategy

Acxiom's business strategy is to develop strategic partnerships with its customers using long-term contracts for marketing services. Acxiom focuses on converting and managing customers' critical data into actionable information. The company has been moving away from its traditional dependence on one-time or repeating projects with short life cycles. It believes that only through long-term contracts can customers realize the benefits an Acxiom relationship can provide: full-service functional or business operations outsourcing to manage large volumes of customer information.

Acxiom also follows a partnering philosophy internally. Individual business units partner on an as-needed basis, and with third-party vendors to deliver value to the customers.

9. Acquisitions

Several acquisitions have occurred since Acxiom's establishment in 1968 that strengthen its functional expertise in the direct marketing industry. Acquisitions include:

- Modern Mailers (1987)
- BSA (1986), a company that provides fulfillment services for magazine subscribers
- Southwark (1987), a U.K.-based direct marketing and information services firm

10. Alliances

Acxiom is pursuing strategic alliances with several major systems integrators, including some of the "Big 6," such as KPMG Peat, Marwick, and American Management Systems (AMS). Acxiom hopes to expand beyond its current market base and become a partner in more enterprise-wide systems integration engagements leveraging its expertise in marketing data base management and application development.

11. Key Products And Services

Acxiom has developed an interactive family of products designed to allow access and provide custom reporting features for direct data base marketing. Some of its products are: MISA, NAVIGATE, OAM, DFM, AFM, PC QUICK MATRIX, and SCORE. Acxiom is also focusing on its ORB technology, which allows diverse technologies and custom developed products to communicate across platforms.

Exhibit ACX-9 shows services Acxiom is capable of providing with internal staff capabilities or through alliances with other vendors. Partnership relationships are usually formed to provide strategic business consulting, applications development, and business systems re-engineering services outside Acxiom's direct marketing expertise.

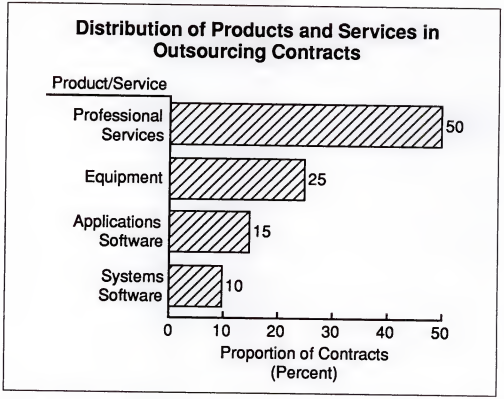
EXHIBIT ACX-9

Capabilities

Internal and Alliances	• Business management consulting • Business process consulting • Applications design/development • Applications maintenance • Packaged applications software • Installation services
	• Equipment maintenance • LAN installation/administration • Strategic planning
Internal Only	• Computer systems operations • Network management • Disaster recovery

Acxiom services a particular niche in the outsourcing market, one in which clients rely heavily on large volumes of complex customer information as a strategic part of their business. Professional services account for 50% of the company's outsourcing business because most contracts involve a high degree of custom application development and maintenance, as shown in Exhibit ACX-10. Acxioms services are primarily sought to customize existing data bases into more useful and cost-effective marketing tools.

EXHIBIT ACX-10



12. Marketing and Sales

Acxiom strives to build long-term relationships with its customers to enable them to reap the benefits of Acxiom's services. Most contract durations with customers reflect the company's commitment to its customers and the customers' commitment to Acxiom's services, as shown below:

	Proportion of Contracts (Percent)
1-3 years	10
4-6 years	50
7-9 years	20
10 years plus	20

A typical component of many outsourcing contracts is the acquisition of some of a customer's computing and personnel resources. The majority of Acxiom's contracts include these provisions. The company currently estimates that 90% of its contracts include the takeover of customer equipment; 80% include assimilation of staff; and 20% also involve Acxiom assuming other customer assets.

Contract pricing terms vary between the three types shown in Exhibit ACX-11. Both transaction and resource-utilization-based pricing are negotiated most frequently with Acxiom's customers.

EXHIBIT ACX-11

Distribution of Contract Pricing

Type of Pricing	Proportion of Contracts (Percent) 1992
Transaction Based	40
Resource Utilization Based	40
Fixed Price, Plus Resource Utilization over a Predefined Level	20

13. Clients

Acxiom claims its outsourcing clients now exceed 50. Some representative contracts include:

- A 1991 contract with Fulfillment Corporation of America (FCA), which includes outsourcing of FCA's data processing and software management to Acxiom's facilities and software.
- A functional outsourcing contract with Direct Media, Inc., one of the largest list managers/brokers in the direct mail industry. Acxiom provides list rental, merge/purge, private data base, public data base, National Change of Address (NCOA) correction service, and list enhancement.
- The M/A/R/C Group provides targeted data base marketing analysis services and consulting. Since 1989, Acxiom has provided all of M/A/R/C's mainframe processing functions. The two companies also share research and development efforts, as well as technological enhancements.
- Data center operations for a major credit reporting company. Estimated at $200 million, this ten-year contract is Acxiom's largest outsourcing contract. Takeover of customer's equipment, software licenses, and employees are included in the contract.
- Mainframe processing at Acxiom's Data Center in Conway (AR) for Guideposts Associates, Inc. (GAI).

14. Competitors

Although Acxiom is considered a niche player in the outsourcing market, it views the following companies as competitors:

- IBM (ISSC)
- EDS
- Perot Systems

All three companies are well known for their strengths in outsourcing and systems integration in many markets.

15. INPUT Assessment

Acxiom seems well positioned to continue as an industry leader for outsourcing services in the direct marketing industry. The company's strengths lie in developing long-term relationships with customers who can profit from the full range of management and technical services Acxiom offers for mission-critical data. Long-term relationships that require increasing value-added services from Acxiom should propel the company into a stronger outsourcing position in the future.

Acxiom's customer base is expected to expand beyond its traditional base—the direct marketing industry—if the company can develop partnering relationships with some of the major systems integrators. Acxiom has reportedly targeted the health services industry. Alliances with SI vendors—which eventually lead to teaming partnerships—should also allow Acxiom to participate in more markets and build on its marketing data base expertise and extend it to other industries.

COMPANY PROFILE

Affiliated Computer Systems, Inc. (ACS)

1. Key Systems Operations Contacts

Affiliated Computer Systems (ACS) was formed in 1988 as a holding company. Its first acquisitions were the automatic teller division, the electronic funds transfer subsidiary and the data processing subsidiary of Gibraltar Savings Association. In its first three years, Affiliated acquired twelve related companies and organized them into four operating units: ACS Commercial Services, ACS Financial Services, ACS Compute Utility and ACS Field Electronics. In the last quarter of 1991, Affiliated Computer Services, Inc. (ACS), a wholly owned subsidiary of Affiliated Computer Systems, was formed to consolidate the four units into two operating divisions: Commercial Services and Financial Services. Government accounts are serviced from both divisions, depending on the services required.

The systems operations activities at Affiliated Computer Systems are under the direct supervision of Pete Hill, Executive Vice President—Compute Utilities. He is located at:

2828 North Haskell
P.O. Box 219002
Dallas, TX 75221-9002

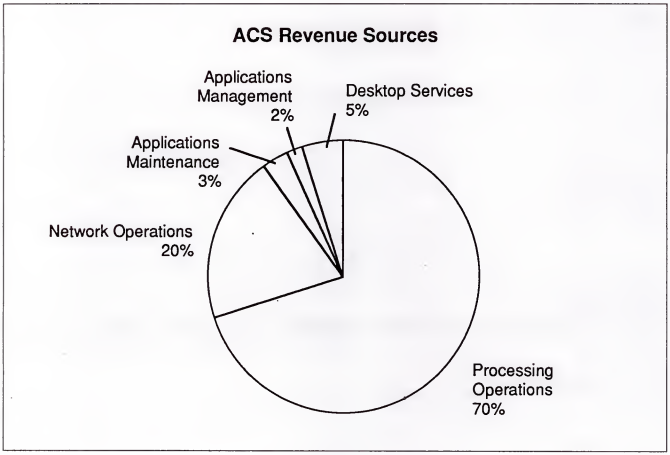
2. Description of Principal Business

Affiliated Computer Systems provides computer outsourcing services, facilities management, transaction processing and data communications services. Approximately 95% of ACS revenue is derived from commercial and financial accounts. Revenues for FY 1992 (ended June 30) totaled $180 million, up 9% from the previous year.

The company projects revenues in FY 1993 to reach $220 million. This projection is based on a combination of recently acquired commercial accounts, the acquisition of CIC/DISC, a financial services outsourcing firm, and a recent strategic alliance.

As illustrated in Exhibit ACS-1, the company's primary revenue is derived from its processing operations. Network operations, including shared hub satellite transmission services, will likely remain a significant factor in the ACS service mix.

EXHIBIT ACS-1



Staff time and computer utilization account for 75% of the value of ACS outsourcing contracts. Approximately 15% is derived from equipment The remaining 10% stems from systems software.

3. Systems Operations Service Characteristics and Capabilities

Affiliated Computer Services has main computer facilities in six cities: Dallas, San Francisco, New York, Boston, Honolulu and Laurel, MD. It has remote processing locations in twenty states. There are 1,400 full-time employees.

Mainframe processing capacity is 400+ Mips and systemwide disk capacity totals 1,000 Gigabytes.

ACS favors a computing utility, where clients are charged for each unit of computing power consumed, billing each only for what is actually needed. As illustrated in Exhibit ACS-2, the company has progressed in that direction.

EXHIBIT ACS-2

ACS FY 1992/1993 Contract Method

Fixed Price/Period	Percent	
	FY 1992	FY 1993 (Est.)
Transaction Volume	20	20
Resource Utilization	55	75
Cost+/Predefined Margin	25	5

4. Markets Served

Since the acquisitions in July 1988 of the automatic teller division, the electronic funds transfer subsidiary and the data processing subsidiary of Gibraltar Savings Association, ACS has been a factor in financial services. That traditional position continues. Its three proprietary, financial software products—Hogan, Florida and Advantage Software—provide ACS with a great deal of flexibility in that sector.

An aggressive sales effort over the past 12 to 18 months has added significantly to the company's commercial account list. Already working on a 10-year contract with Southland Corporation (7-Eleven stores), ACS has, over the past six to nine months, posted a number of significant additions.

Greyhound, Inc.: Data processing for corporate administration and fare/scheduling information systems

Associated Stationers, Inc.: Outsourcing and data processing services

Tesseract Corporation: Development and testing resources for the firm's software products in human resource applications

Princeton Packaging: An eight-year outsourcing contract with the nation's largest packaging supplier to the bakery industry

Trans National Communications: Providing call rating and billing, customer service and back-office processing, as well as provisioning and collection services for the firm's flagship product, Member Long Distance Advantage

5. Competitive Position

Though Affiliated Computer Systems ranks among the top ten firms in the outsourcing industry, it is clearly overshadowed by its major competitor, EDS. ACS is half the size of its next leading competitor, IBM.

In a market where contracts can reach anywhere from $500 million to $2 billion, it is difficult to sell a prospect on the ability to service an account that would literally double or triple the vendor's revenues with a single agreement. ACS has indeed had the experience of bidding on very large contracts and getting through to the final selection process, only to be rejected for just that reason.

On the other hand, ACS is small enough to benefit from account opportunities that might not interest larger competitors. A company the size of EDS, for example, might not be able (or choose) to allocate enough resources, fast enough, to effectively bid on an $8 million contract.

In the $5 to $15 million bid segment, Affiliated has, in fact, done very well. There, ACS is frequently larger and stronger than a host of other competitors attracted to the same range.

With an average contract term in the five- to eight-year range, Affiliated has been bolstering the shorter term contracts it purchased in its aggressive outsourcing company acquisition period, thereby preparing itself to bid on increasingly larger projects.

6. Recent Events

Recent acquisitions and joint ventures include:

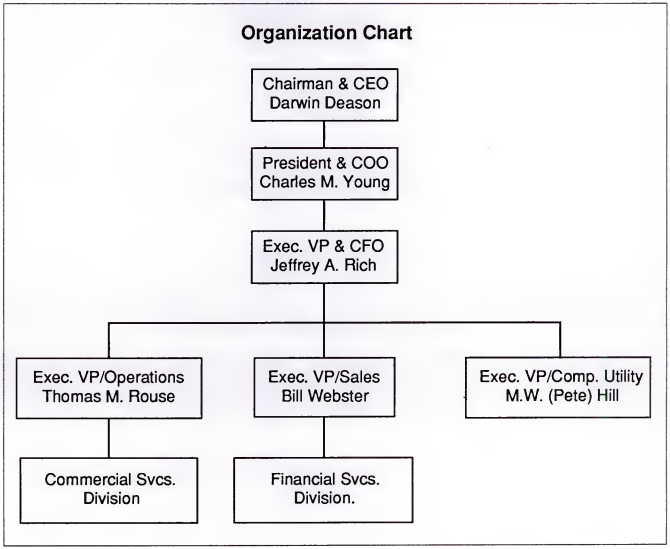
In February, ACS announced the acquisition of CIC/DISC, an outsourcing firm based in New York City. The purchase extends Affiliated's financial services presence into the Northeast.

ACS also recently announced that it has entered into a strategic alliance with Price Waterhouse. Both firms see the relationship as synergistic, given the complementary strategic goals. ACS brings compute utility and data processing services to the alliance, while Price Waterhouse provides an extensive background in systems integration. The relationship has already proven itself valuable on several sales and technical levels.

7. Organization

A senior management organization chart is presented in Exhibit ACS-3.

EXHIBIT ACS-3



8. Systems Operations Marketing Strategy

Approximately 80% of ACS's annual outsourcing business comes from its existing client base in the form of contract renewals and expanded services. This may change somewhat as the firm continues to increase its aggressive sales posture. But ACS appears to be working from a generally satisfied base of clients.

Proactive sales activity accounts for 70% of the new accounts that ACS secures. The company targets the business it wants and goes for it. A continuing pattern of targeting both strategic alliances and acquisitions will also account for a significant amount of new account growth in a growing industry, as it allows for expansion of existing client business.

9. Summary and Future Directions

Just as it quickly stepped outside of its banking industry roots to secure the Southland Corporation account, ACS will continue crossing industry lines in its search for new business. The firm's primary criterion for choosing new business targets is simple: they should be IBM large mainframe users whose core business is stagnant or declining.

Though market saturation does not seem imminent for outsourcing contracts in the U.S., ACS, like many of its competitors, has begun to examine the European market for new opportunities. Opportunities in Europe remain somewhat questionable in this sector, but Affiliated personnel are currently attempting to ask the right questions, while building the appropriate relationships.

COMPANY PROFILE

Andersen Consulting

1. Key Outsourcing Contacts

The outsourcing activities at Andersen Consulting are under the direction of Donald P. Monaco, Managing Partner of Integration Services and Technology - Americas. The Business Process Management activities, Andersen's outsourcing activities, report directly to him. Mr. Monaco's office is located at:

33 West Monroe Street
Chicago IL 60602

Andersen considers outsourcing, as represented by Business Process Management, as part of a continuum with the firm's systems integration services. Each of Andersen's service lines is introduced in the following section.

2. Description of Principal Business

Andersen Consulting offers management and technology consulting to clients in nearly every business and governmental sector. The organization helps clients use information technology competitively in all phases of their management activities—strategic, operational, and financial. Andersen Consulting believes it can ultimately help its clients "re-engineer" or rethink the way they do business—a process, the firm claims, that can lead to business integration or the integration of technology, strategy, operations, and people.

Andersen Consulting breaks down its services along these lines:

- Business Process Management (operations and network services, facilities management, applications management, backup/recovery services)
- Systems Integration (systems design, building, integration, implementation)
- Strategic Services (competitive market strategy, organization and change strategy, business operations strategy, information and technology strategy)
- Change Management Services (organization change, technology assimilation, knowledge transfer, quality management)

Andersen Consulting also offers application products and computer-aided software engineering products.

Andersen Consulting's service lines and products are offered through six major industry practices. Each of the following practices is headed by a managing partner and staffed with consulting specialists who have developed industry-specific expertise:

- Financial Services (financial markets, insurance, retail financial services)
- Government
- Health Care
- Products (aerospace and defense, airlines, discrete/repetitive manufacturing, energy, food/consumer packaged goods, general retail and wholesale distribution, process manufacturing)
- Telecom Industry Group
- Utilities

Those classifications are not specialties but ways of organizing Andersen Consulting's varied industry work.

Andersen Consulting is no longer the consulting arm of tax/audit firm Arthur Andersen. In 1989 the two Andersens were designated as separate business units with their own operations and managing partners. Through this operating model, none of the partners in Andersen Consulting are active in Arthur Andersen and vice versa. Andersen Consulting's managing partner is George T. Shaheen.

3. Outsourcing Characteristics and Capabilities

Andersen has been in the commercial outsourcing business for the past five years and currently has no federal outsourcing business. They indicate that expansion into the federal outsourcing market is a possibility in the future.

Exhibit AA-1 presents graphically the distribution of Andersen's outsourcing business by type. Note that they consider Operations (Data Center) and Network as one category and have no desktop services business currently.

Their applications management activities represent a large share of their total outsourcing revenue, and the Business Function Management (also referred to as business operations outsourcing) represents as large a share of their business as the traditional systems operations component.

EXHIBIT AA-1

Distribution of Outsourcing Revenue

Outsourcing Service	Proportion of Revenue (Percent)
Operations and Network Management	30
Applications Management	40
Business Function Management	30

Note also that Andersen refers to all of these in their own terminology as Business Process Management. They do consider outsourcing in its various forms to be a source of high growth potential within the company.

Andersen's typical outsourcing contract is in the three- to six-year range, somewhat lower than the trend in the industry. They feel they must remain in a flexible position with the client and not lock them into a long term contract as they had in the past. It is apparent that the clients are also demanding this kind of shorter term arrangement .

The pricing policy described is also a departure from past practices. Less emphasis is placed on fixed price or resource-based contracts: Andersen is concentrating on something they term "value billing". Pricing is determined by the value delivered to the client. It is a very tailored, individualistic approach to pricing, as the unit of measurement of value varies considerably with the type of client. The value may be tied to the increase in units shipped in a manufacturing environment, the increase in forms processed in an insurance firm, or some still more esoteric measure of value in another firm. They expect this type of pricing to represent the majority of their outsourcing contracts within two years.

4. Markets Served

Andersen currently provides outsourcing support to over 100 commercial clients worldwide. About half of these are in the United States. All of Andersen's contracts have a value of $2 million or above. Currently, Andersen derives no outsourcing revenue for the federal sector. Andersen is specifically targeting the following markets:

- Consumer Products
- Energy
- Insurance
- Utilities

These markets are typically operating with legacy systems. These industries are most in the need of re-engineering and rethinking their business objectives. This makes them good candidates for outsourcing as well as for Andersen's other service lines.

Andersen sees opportunities to expand in these market areas, yet they are also looking at other, unidentified markets for expansion.

5. Competitive Position

Andersen views its two competitors in the commercial outsourcing market as EDS and ISSC. Since it does not currently participate in the federal outsourcing market, it did not identify competitors in that area.

Though its two designated competitors are major players in the field, they bring a different set of credentials to the market than Andersen. It is interesting to compare the three to look for convergences and identify differentiating strategies.

- Andersen has extensive industry-specific applications development and integration experience, helping it to understand more fully its clients' business needs. It has been less interested in managing data centers and has often passed that responsibility to another vendor in an alliance.

- ISSC provides strong market presence because of its parent's equipment and software pervasiveness in the overall IT market. It may possess a higher level of understanding of the implications of technology on an industry than many of its competitors. Its new-found freedom from the slow decision processes of the parent makes it aggressive, though as yet ISSC has been particularly strong in platform operations contracts, not applications operations.

- EDS has more systems operations experience than all its competitors, and has recently been expanding its role as a network manager. They also have the lion's share of the desk top services market at this time.

Andersen is clearly developing a strategy to bypass some of the battles it could encounter in the mature platform operations market and trying to leapfrog itself into the business operations outsourcing market and the applications management market. There is no question that EDS has also targeted these markets, but Andersen currently has the lead.

6. Recent Events

Andersen has not been making any major acquisitions or alliances lately. The biggest news is the restructuring of the service line to include outsourcing in Business Process Management and the formal alliance program called Business Integration Partnership that is developing relationships with all major suppliers. This will be discussed further in section 8 below.

Andersen has formed a strategic outsourcing alliance with INFONET Services Corporation. The non-exclusive alliance enhances both firms' capabilities to offer communications, computing services, application support, and business operations expertise to meet specific customer needs. The alliance enables Andersen to offer INFONET's global communications network on a preferred basis, which will be very important to its SO capabilities.

In September, Andersen Consulting and Systematics Financial Services, Inc. formed a strategic business alliance to provide systems integration services and banking software to the nation's financial institutions. The alliance will provide financial institutions a full range of integrated information services, including systems integration, remote processing, facilities management, application software and other management information services. This is an exclusive arrangement, but both parties are free to honor specific client requests for alternatives.

7. Organization

As previously mentioned, Andersen Consulting provides outsourcing services through its Business Process Management service line. Andersen projects that this piece of their business will grow significantly in the coming years. Andersen will adjust its organization structure to reflect this growth.

The organization chart for Andersen is included in Exhibit AA-2. It shows that Mr. Monaco reports to John T. Kelly, Managing Partner for the Americas. He, in turn, reports to George Shaheen, Managing Partner for Andersen Consulting, located in New York.

Andersen estimates that they currently have 600 employees engaged in business process management worldwide. They are unable to break this down into U.S. and non-U.S. based personnel, but it is known that there are over 200 personnel involved in the large BP Exploration contract that Andersen has in the U.K..

They were also unable to identify how the staff are distributed in categories such as general management, client support, and operations staff, but indicated that most of their revenues are derived from professional services activities as might be expected.

Andersen Consulting Americas Operations

Shaded boxes indicate line operations.
All others indicate area management.

8. Outsourcing Alliances

Exhibit AA-3 lists the business integration partners that form an alliance with Andersen. It includes most of the major technology companies. They actively participate in Andersen's outsourcing business when appropriate, as well as in assist Andersen in their other service lines of business.

EXHIBIT AA-3

Andersen's Business Integration Partners

Amdahl	HP	Pyramid
Apple	IBM	Sun
AT&T/NCR	Infonet	Sybase
BBN Software	Informix	Symmbol
Dell Computer	Microsoft	Synoptics
DCA	Norand	Systems Center
DEC	Palette Systems	Tandem
Filenet	Plexus	Xerox

These alliances include product development and remarketing agreements that allow Andersen to work with its clients to provide the best solution to a particular business problem.

They include an alliance with Microsoft to develop client-server applications and one with Xerox to provide products from Xerox's new DocuTech Publishing Series. In late 1989, Andersen became a remarketer of Sun's entire line of computers and software.

9. Outsourcing Market Strategy

Andersen expects to expand its outsourcing business from its existing client base by pursuing new accounts. It expects that 65% of its business will come from the existing client base, while 35% result from soliciting new accounts for outsourcing business.

New contracts are acquired in the following manner:

Responding to RFPs	50%
New contracts with existing clients	30%
Proactive direct sales	20%

This pattern represents one different from many of its competitors. Most of them report very little, if any, proactive sales. Although Andersen may now be ahead of its competitors, they will no doubt have to rely more on proactive sales as the market gets more crowded.

Andersen has pursued a strategic policy of seeking out applications management arrangements with its prospects. They are interested in managing the application software development environment, even without managing the data center. There is conflicting evidence as to the client's acceptance of this mode of outsourcing, and there is still a question whether this strategy will generate significant new outsourcing business for Andersen.

Andersen has identified various selection criteria for pursuing new business.

- It is not cost effective to pursue small outsourcing opportunities unless those have significant additional revenue potential, either in add-on integration or re-engineering activities. The minimum revenue stream of $3 million per year is targeted for new opportunities.

- Andersen is aggressively pursuing relationships with a variety of equipment vendors through its Business Integration Partnership program to allow it to present a variety of technologies and platforms to meet the varying client needs.

- It will, finally, focus on those opportunities where it can demonstrate a real business benefit to the client. Its new value billing pricing strategy should emphasize the benefits to the client.

In competing for outsourcing business it identifies the following characteristics as differentiating it from its competitors:

- Flexible contract terms and conditions
- Access to organizations change expertise
- Well defined methodology
- Leading edge technical expertise
- Cost-effective processing
- Application of business/technical expertise
- Sensitivity to client relationships
- Independence of specific equipment and software solutions.

10. Outsourcing Client Base

Andersen has a wide range of outsourcing agreements included in its base of 100 identified contracts. Typical of Andersen's outsourcing contracts are the four that follow:

- A $200 million, 10-year agreement with Sun Refining and Marketing to acquire their Dallas Computer Center, then assume management for the center and all its employees.
- A $50 million contract with Voluntary Hospitals of America to install and manage a computer system to provide physicians and management with comparative information on the cost and quality of patient care.
- A $410 million, five-year contract to provide network support and technical support to Dial Corporation's application development staff. The support includes managing Dial's data center and shifting operations to Andersen's Dallas facility.
- An agreement with Maxus Energy to manage and operate the data processing facility, the telecommunications network, and the applications development function.

Exhibit AA-4 summarizes some of Andersen's other recent or current contract activities. Note that many of these are really systems integration contracts that may have an operations component.

Though Andersen does not break down their outsourcing revenue in any quantifiable way, Andersen does state that they have experienced a 50% increase in outsourcing revenues between 1991 and 1992. The total revenue for Andersen Consulting for those two years was $2.3 billion in 1991 and $2.7 billion in 1992.

Andersen indicated that in their outsourcing contracts, they were assimilating the client's equipment in 25% of the cases and taking over responsibility for the client's staff in 75% of the cases. The assumption of equipment is lower than for many of its competitors, probably because many of the arrangements between Andersen and its clients are for applications management and business operations rather than platform operations.

EXHIBIT AA-4

Representative Andersen Contract

Client	Size/Duration	Scope of Effort
1992 Winter Olympics	$10.2 million	Integrate systems for results reporting, accreditation, administration, finances
Delta Airlines	N/A	Develop a new system to expedite aircraft maintenance and provide more comprehensive data
Workers Compensation Board, Alberta Canada	$50 million 5 years	Information systems development and support services
Prudential Corporation	$4.2 million	Lead contractor in image processing contract
British Petroleum Exploration U.K.	$89 million	Andersen Consulting's largest systems management deal. Andersen Consulting assumes all of BPX's financial accounting services.
State of Montana	$15.5 million	Develop, implement, and operate a human services system

11. Emerging Market Opportunities

Andersen reports that fully 75% of their outsourcing business has a transition outsourcing component—that is, the vendor is responsible for the legacy systems while the client pursues new developments. They report that their flexible outlook on outsourcing arrangements encourages this and

that the whole concept of business process management makes this a likely path for them to follow. Andersen expects this mode of outsourcing to grow in the near term.

In another development, they report that by the end of calendar year 1993, they expect 35% of their contracts to involve business operations outsourcing. This is not surprising. Andersen has made a point of promoting and aggressively pursuing this business, since they won the major operations outsourcing contract at British Petroleum in the U.K. two years ago. Again, the move to re-engineer operations in general will give this market segment added impetus.

12. Summary and Future Directions

Andersen is expected to continue to focus its efforts on the commercial outsourcing market. They have extensive industry expertise to build upon and have supplemented this with a series of alliances with IT technology vendors that give them a good competitive position. Their early efforts in outsourcing are reported not to have given them acceptable margins, but indications are that this has improved as they evolve into business operation outsourcing and applications management activities.

Andersen has the potential to expand rapidly in the market as they apply their consulting expertise to situations where the client wants to engage a full service vendor for outsourcing. They are indeed competing against the largest vendors, ISSC and EDS, and are adopting much the same strategies and delivering the same marketing message, namely: We can do it all.

INPUT expects Andersen to continue to be a significant player in the commercial outsourcing market, one that could benefit if its strong suits, insurance and utilities begin to adopt outsourcing as a means to leapfrog technology and control costs at the same time.

COMPANY PROFILE

Citicorp Information Resources (Now part of FIserv Inc.)

1. Key Systems Operations Contacts

On April 1, 1991, FIserv Inc. of Milwaukee acquired the processing and consulting units of Citicorp Information Resources (CIR), the systems operations subsidiary of Citicorp, Inc. FIserv plans to operate CIR as a subsidiary of FIserv and is expected to shift its facilities management, outsourcing and Resolution Trust operations into the former Citicorp unit. Since the systems operations activities of the combined firms are expected to be managed by the CIR subsidiary, this profile concentrates on the CIR portion of FIserv's operations.

The systems operations activities at Citicorp Information Resources (CIR) are under the direction of Frank Martire, Chairman of CIR, who reports to Mr. George Dalton, Chairman of Fiserve. Mr. Martire is located at:

4 Stamford Forum
Stamford, CT 06901

2. Description of Principal Business

Citicorp Information Resources provides processing services, application software products, systems operations (facilities management), and associated support services to over 800 banks, thrifts (savings and loans, savings institutions, and mutual savings banks), finance companies, and credit unions.

CIR is a national supplier of information services in 43 states and in 24 countries around the world. CIR provides the following products and services to financial institutions:

- The National Service Product (NSP) is an on-line processing service for banks and thrifts.
- Resource Manager is a systems operations processing service that provides access to third-party software from a CIR data center.
- The Comprehensive Banking System is available as a software product or a turnkey system to banks and thrifts.
- Systems operations professional services are provided to banks and thrifts.
- The GALAXY 2000 Credit Union System is available as an on-line processing service, in-house software product, or systems operations professional service. Because GALAXY 2000 is vertically integrated software, all three delivery modes use the same software.

- EFT Services support a range of ATM transaction processing capabilities, including ATM driving, transaction switching, and point-of-sale support.

- CIR also provides consulting services to international financial institutions.

3. Systems Operations Service Characteristics and Capabilities

Exhibit CIR-1 presents CIR's view of the changes in its market over the next few years. All of the numbers represent a percentage of total revenue derived from systems operations. The first chart pairing indicates that there will be no change expected in the next few years in the percentage of revenues generated from client-owned equipment. The high percentage of vendor equipment is consistent with most responses to INPUT's survey. In general, most systems operations vendors derive greater revenues through their own equipment than through client-owned equipment.

The second pairing in Exhibit CIR-1 shows that all systems operations revenues are realized from client-owned sites. This suggests that, as CIR increases its systems operations business, it will continue to purchase equipment for installation at client sites.

CIR-1

Market Characteristics

		1989 (Percent)	1992 (Percent)
Equipment Ownership Percent of Revenue	CIR	80	80
	Client	20	20
Equipment Location Percent of Revenue	CIR	0	0
	Client	100	100
Processing Percent of Revenue	Shared	0	0
	Dedicated	100	100
Applications Software Developed by	Client	10	10
	CIR	10	10
	Third Party	80	80

The third pairing shows no expected change in the mix of shared versus dedicated facilities. In the nine data centers that CIR operates, each center is client owned, and therefore dedicated to the single client.

The fourth pairing shows that while most application software is developed by third-party vendors, an equal percentage of revenues are realized when application software is developed by either CIR or the client.

All of CIR's contracts are fixed-price contracts for a fixed period, each greater than five years in duration.

Citicorp Information Resources has the necessary capabilities to provide full service to its client banks, except in the areas of disaster recovery and equipment maintenance. In those areas, other companies are brought in to perform such functions. CIR has established an alliance with Sorbus to provide equipment maintenance.

In addition, CIR supplements its capabilities in the areas of software development and maintenance with the services of outside vendors. These vendors may provide custom services or packaged applications. Particular examples are the use of McCormack and Dodge and Hogan packaged software for financial institutions.

4. Markets Served

CIR provides its systems operations services only to financial institutions. It currently has nine banking customers to whom it provides a full range of processing and systems operations services.

5. Competitive Position

The company has been in the systems operations business for seven years. It had systems operations revenues of $15 million in 1989 and projects 1990 revenues from systems operations of more than $21 million. The 1989 revenue for all of CIR was $120 million.

CIR considers its principal competitors to be two companies that concentrate their energies on the banking sector—Systematics and Mellon Bank—and one broad-based SO provider—EDS.

6. Recent Events

In May 1989, CIR introduced Selector, a software package that permits National Service Products (NSP) customers to retrieve data from mainframe files resident at the CIR data center for manipulation on their microcomputers. Selector is available only to NSP clients.

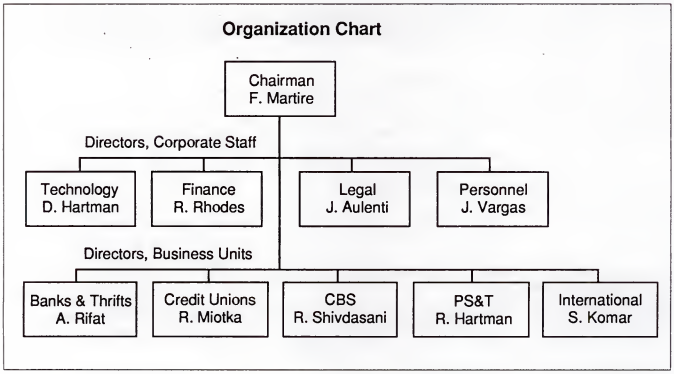
In April 1989, CIR introduced EFT Services, an integrated ATM service available from its Arlington Heights data center. ATM processing support was previously provided to CIR's NSP clients by GTE-Indianapolis and Deluxe Data Services.

7. Organization

Citicorp Information Resources is a subsidiary of Citicorp, which provides banking services to the financial community.

Exhibit CIR-2 presents the organizational structure of CIR. Though CIR does not identify its staff as dedicated to systems operations, there are approximately 900 employees. Exhibit CIR-3 shows an approximate distribution of these employees by function. As expected for a service provider, the largest concentration of resources is in the operations function (45%).

CIR-2



8. Systems Operations Alliances

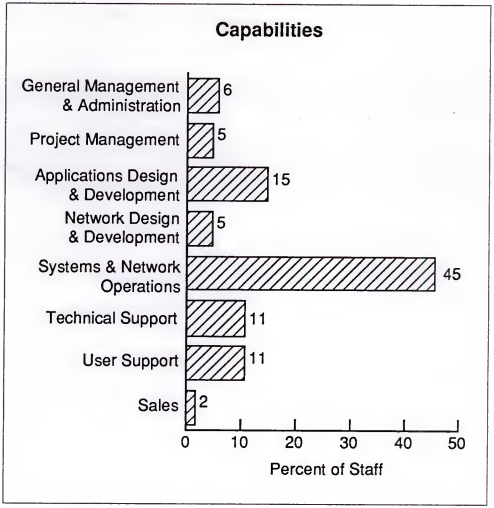
CIR has no formal alliance program to enhance its capabilities, but does use subcontractors to supplement its resources in the areas of applications software development and maintenance.

9. Systems Operations Marketing Strategy

Citicorp Information Resources expects to continue to grow by expanding its current base of clients. Management considers the needs of the prospect and the cost of entry of servicing that client in deciding which prospects to target.

For example, if a prospect is currently on a processing platform not supported by CIR, the cost of entry for that customer would probably make it an unlikely client. Another factor cited by management is the strength of competition in a particular geographic market. CIR will concentrate its efforts in areas where its perceived competitors do not already have a dominant position.

CIR-3



Currently, CIR derives 85% of its systems operations revenue from the current client base and expects to generate about 15% of that from new accounts. About 80% of these new sources of systems operations revenue are generated from within the current customer base, with 20% acquired in response to bid solicitations.

CIR provides its new clients with additional flexibility in its systems operations and can usually provide the service at a lower price than other vendors and internal resources.

10. Systems Operations Customer Base

Citicorp Information Resources currently has nine clients. Typical of those are Amarillo National Bank in Texas; First Guaranty Bank in Hammond, Louisiana; and Pacific Guaranty Bank in San Jose, California. In all of these instances, CIR manages the entire data center operation.

11. Summary and Future Direction

Citicorp Information Resources has successfully assumed the systems operations functions of a number of banks to fulfill all of their data processing needs. The sales force expects to continue its market expansion by seeking new clients in the banking community. Management is relying on its expertise, its reputation in the market, and current contacts for major new clients.

COMPANY PROFILE

Computer Task Group, Inc.

1. Key Systems Operations Contacts

The systems operations activities of Computer Task Group are under the direction of John A. Lozan, a corporate Vice President. He reports directly to John P. Courtney, President of the corporation.

The executive offices of the company are located at:

800 Delaware Avenue
Buffalo, NY 14209
(716) 882-8000

However, Mr. Lozan's office is located at:

700 Delaware Avenue
Buffalo, NY 14209
(716) 881-3000

2. Description of Principal Business

Currently, systems operations is a major new emphasis area for CTG. Approximately 87% ($203 million) of CTG's revenue was derived from its various professional services, including systems operations, and 13% ($30 million) from commercial systems integration activities.

CTG classifies its services into three areas:

- Professional services—the company's major source of revenue is derived from this type of service. CTG staff provide programming, systems analysis and design, project management, systems operations, and other services in support of the client's data processing applications.

- Consulting—examples of specialty areas in which CTG has experience include information engineering, data base consulting, telecommunications/network consulting, conversions, migration, and document management services.

- Commercial systems integration services—these services are provided to the manufacturing and industrial markets through CTG's subsidiary, Scientific Systems Services. Services provided include management consulting; concept and applications planning studies; control-Spec™ functional specification and scope-of-work contracts; systems architecture services, including hardware selection, systems software evaluation and selection, application software, and communications; and project implementation.

CTG provides its commercial professional services through a network of 65 branches and field offices.

Currently, systems operations represents approximately 5% of CTG's sales. It is offered on a nationwide basis. A significant number of CTG's systems operations contracts are in partnership with IBM.

3. Systems Operations Service Characteristics and Capabilities

Exhibit CTG-1 presents graphically how CTG views the change in its market in the next four years. All of the numbers represent a percentage of total revenue derived from systems operations. The first chart pairing indicates that there will be significant change in the next few years in the percentage of equipment that is client owned. CTG expects client-owned equipment contracts to continue to be a very minor portion of its overall systems operations activities. The majority of activity will be third-party ownership. This indicates CTG's change in strategy from a service bureau orientation.

However, the second pairing suggests the opposite result for equipment locations, as equipment at client sites will shrink from 63% in 1989 to 50% in 1992. This suggests that, as CTG increases its systems operations business, clients will find it more economical to utilize shared sites.

On the other hand, CTG expects some change in the mix of shared versus dedicated facilities. This suggests that, as CTG or third parties convert ownership of client equipment, it will begin using that equipment for other clients. The three pairings of boxes, taken together, suggest some significant changes in the way CTG will conduct its systems operations business. However, since it currently supports only three centers, some changes would be expected as the business grows. Currently, all of CTG's systems operations activities involve client-developed applications software. However, as the fourth pairing in Exhibit CTG-1 shows, this will change slightly over the next few years. In view of its significant professional services activities, CTG does plan to leverage more of its software development efforts into systems operations.

Exhibit CTG-2 compares the distribution of systems operations revenue under various pricing alternatives. The data suggests some dramatic changes in the way CTG will conduct its systems operations business. In particular, by going to fixed-price work, CTG will be assuming considerably higher risks in the performance of its contracts. It is possible, as CTG builds up a critical mass of staff expertise in systems operations, that this risk will become manageable and fully justified by the potentially higher profit margins.

CTG-1

Market Characteristics

		1989 (Percent)	1992 (Percent)
Equipment Ownership Percent of Revenue	CTG	91	10
	Client	0	10
	Third Party	9	80
Equipment Location Percent of Revenue	CTG/IBM	37	10
	Client	63	50
	Third Party		40
Processing Percent of Revenue	Shared	90	60
	Dedicated	10	40
Applications Software Developed by	Client	100	60
	CTG		20
	Third Party		20

CTG-2

Distribution of Revenue

Contract Type	1989 (Percent)	1992 (Percent)
Fixed Price	9	80
Resource Utilization	91	
Cost plus Predefined Margin		20

Currently, CTG's systems operations contracts range from three to four years for half the work to more than eight years for the other half. Currently, CTG derives none of its systems operations revenue from the federal government.

Exhibit CTG-3 compares systems operations capabilities derived from internal sources with those derived from alliances. The data suggests that CTG has made significant teaming efforts in its systems operations activities. Since IBM currently has an equity investment in CTG, IBM will likely continue to provide the system software, the maintenance arrangements and the hardware platforms.

CTG-3

Capabilities

Internal and Alliances	• Business Consulting • Computer Systems Operations • Network Management
Internal Only	• Network Management • Applications Design/Development • Applications Maintenance
Alliance Only	• Equipment Maintenance • Disaster Recovery Service • Packaged Applications Software
Neither Internal nor Alliance	• Packaged Applications Software

On another issue, CTG is heavily involved in unique consulting and use of systems integration skills, including communications, imaging, documentation, conversion technology, and data base architecture, which give it a competitive advantage. Business growth will likely come from expansion of its professional services business and the above specialties with existing clients. Since this portion of CTG's business is so large, there will be a sufficient number of current clients to increase market penetration.

4. Markets Served

As previously indicated, CTG is just getting started in the systems operations business. It currently services several commercial clients and no federal clients. At this point, CTG appears to be focused on the financial and manufacturing industries.

5. Competitive Position

The company has been providing systems operations support for the past five years, exclusively in the commercial area. This business has grown from $4.89 million in 1988 to $6.72 million in 1989. As CTG grows its systems operations business, it expects its primary competition to come from the large, established firms, including EDS, Andersen Consulting, and Perot Systems.

6. Recent Events

CTG has recently been active in mergers and acquisitions. First, it acquired Connolly Data Systems, Inc., a Lowell, Massachusetts firm that specializes in networking systems integration. In its five-year plan, CTG had targeted networking, communications, and connectivity as areas of high growth. Therefore, the acquisition of Connolly fits well with CTG's strategic commitment.

In another action, World Software Group, a privately held Dutch company, increased its equity stake in CTG to 14.66% of outstanding common shares. World Software Group invests primarily in computer software firms, so CTG's position represents a slight departure from past trends.

Finally, CTG acquired the Rendeck International Group of companies. Rendeck will act as CTG's new European division. Rendeck, with 360 European employees and 1989 revenues of $24 million, provides consulting, professional services, training, and mainframe systems software.

7. Organization

CTG is organized around its three main business areas, as described in Section 2 above. In addition to a limited headquarters staff, CTG currently operates 60 offices.

During the second quarter of 1989, CTG closed four unprofitable branches and eliminated 65 overhead positions to save over $1 million. Results of operations for the second and third quarters were lower than expected, at which time the company announced it would undertake a major restructuring program.

- Overall during the year, CTG eliminated more than 300 positions through the consolidation of overhead functions and the sale or closing of branches. The company consolidated its field operations from 71 to 60 offices.

- The restructuring program resulted in charges to 1989 earnings of $4.2 million for losses on the closing of business units and $13.2 million for other restructuring expenses.

  - Included in the losses on closed business units were losses resulting from the sale of CTG's Amtec Systems Corporation subsidiary and the Ottawa, Ontario, branch office.

  - Other restructuring expenses included severances, costs related to streamlining administrative programs and benefit plans, and costs for consolidating business operations.

- As a result of the restructuring, CTG's first three quarters of 1990 provided record growth in profit, not including expansion into Europe during this period.

8. Systems Operations Alliances

CTG indicated to INPUT that it currently has a systems operations alliance with IBM. In June 1989, IBM made an equity investment in CTG, acquiring approximately 1.5 million shares of CTG preferred stock for $21 million.

- In conjunction with this transaction, the two companies agreed to levels of use of CTG's systems engineers on products for IBM and its customers. Some of these resources are being applied to some of IBM's large SO contracts, like Kodak and Bank South.

- Revenues from IBM, which were about 5% of total revenue prior to this contract, increased approximately 50% by the end of 1989.

INPUT believes that, as CTG increases its systems operations activities, this IBM relationship will continue to play an important role.

9. Systems Operations Marketing Strategy

As previously indicated, CTG plans to expand its systems operations business among its professional services clients. In addition, it will likely enter new markets. However, this latter thrust is expected to account for only 10% of its new business. The balance will come from existing customers. As of this writing, CTG plans no penetration of the federal market.

CTG expects to receive approximately 20% of its new systems operations business through formal solicitation. The balance of new business will come from direct sales activity. This is consistent with its overall plans to expand the contracted work with its current client base.

10. Systems Operations Customer Base

As indicated earlier, CTG has not yet developed systems operations into a major line of business. In 1989, systems operations revenues represented less than 3% of the firm's overall revenues. Its two current clients, IBM and USS/POSCO Industries, represent too small a sample from which to draw any conclusions. However, as the business grows, CTG may choose to focus on certain vertical markets.

11. Summary and Future Directions

In responding to INPUT's survey, CTG estimated that the systems operations market would grow at a 28% CAGR over the next five years, with margins increasing. Since CTG also views systems operations as a highly profitable business, INPUT expects it to increase both sales and marketing efforts in the near term. CTG sees the market segmenting into a number of solutions based on system size. In the large mainframe opportunities, it plans to partner with IBM as the staff provider. In smaller situations, it will provide complete services. CTG will also probably take advantage of its IBM relationship to reach new clients, while at the same time increasing penetration of its own client base.

COMPANY PROFILE

Digital Equipment Corporation (DEC)

1. Key Systems Operations Contracts

The systems operations activities at Digital Equipment Corporation (DEC) are under the direct supervision of Russ Gullotti, Vice President of Digital Services International, located at:

40 Old Bolton Road
Stowe, MA 01775

2. Description of Principal Business

Digital Equipment Corporation, founded in 1957, is one of the world's largest suppliers of networked computer systems, software, and services, and is a leader in multivendor systems integration. As an international company, Digital does more than half its business outside the United States, developing and manufacturing products for customers worldwide.

DEC currently has more than 124,000 employees and more than 300 clients in the Americas, Europe, and the Pacific Rim.

3. Systems Operations Service Characteristics and Capabilities

Digital views services as vital to its future as a corporation. In March 1991, DEC combined its Systems Operations Group, Customer Services Group (CSG), Systems Integration Group, and Enterprise Integration Services (EIS), to form Digital Services.

In regard to its operations contracts, DEC distinguishes facilities management and systems operations as two separate entities. According to Digital, facilities management is the *total* or complete transfer of management responsibility from client to contractor. Systems operations is defined as the management of one function or multiple areas, only where it would best benefit the client. This is also called *modular outsourcing*.

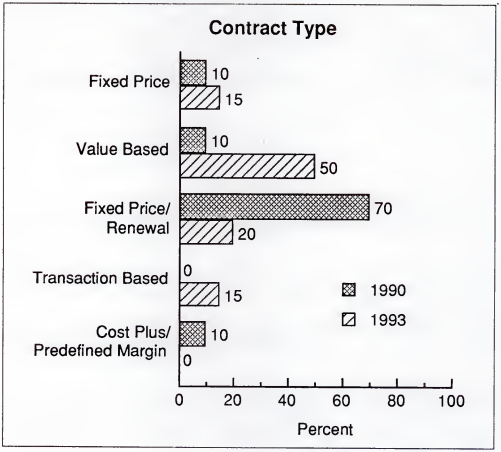
Of its facilities management contracts, Digital reports that 50% of the data centers are client owned, while in its systems operations business 90% of the data centers run are client owned.

Approximately 50% of Digital's contracts are for a period of three to four years, with 20% lasting from one to two years and 30% from five to eight years. Exhibit DEC-1 describes DEC's 1990 and estimated 1993 contract pricing alternatives.

Note that DEC identifies several distinct types of contracts. It has no transaction-based contracts currently but expects them to become 15% of the contract mix by 1993. On the other hand, cost plus fixed margin contracts do not represent a large portion of the contract mix and will become insignificant by 1993.

There are three types of contracts that DEC considers fixed price contracts. Standard fixed price contracts (the client pays a fixed fee for services on a monthly basis) represent a small portion of the contract mix and are not expected to grow much. Fixed price/renewal is a similar type of contract but includes options for renewal in the existing contract. A typical scenario is that the contract would be for three years with two one-year renewal options built in for a total contract duration of five years before renegotiation is required. Though this represents a large percentage of the current DEC contracts, it is expected that these will give way to the value-based contract by 1993. DEC defines the value-based contract as one in which the contract price is a function of the total value of the service, a customized price that includes elements specific to each client. It does not derive its elements from a price list or off-the-shelf features, but is a function of the total service provided to the client.

EXHIBIT DEC-1



4. Markets Served

While placing much emphasis on expansion into new markets, DEC also focuses on expansion within current functional and vertical markets such as manufacturing, finance, government and telecommunications/utilities. Its functional markets include office automation, manufacturing resources planning (MRP) integration, and application development.

5. Competitive Position

DEC has provided operations management services to its federal and commercial clients for approximately four years.

Ranked in the top ten global information technology suppliers in 1990, DEC saw only a 1% revenue increase from $12.93 billion in 1989 to $13.07 billion in 1990. All growth came from outside the U.S.

However, in FY 1991 the company's revenue for services rose 17% to $5.6 billion, while product revenues grew only 2%. The company estimates its compound annual growth rate (CAGR) over the next five years at 25%. INPUT believes that this growth is due to company and marketing reorganization.

Exhibit DEC-2 lists Digital's primary competitors in both the federal and commercial markets.

EXHIBIT DEC-2

Primary Competitors
Federal/Commercial Markets

- EDS
- IBM
- ISM - Canada
- Andersen Consulting

Approximately 50% of DEC's annual systems operations business comes from new accounts. The company places emphasis on global service delivery capacity, technical expertise and skills, multivendor and open systems capabilities, integration, and corporate commitment to partnerships.

While Digital Services relies on the U.S. market for the bulk of its revenue, Japan is its fastest growing market, especially in manufacturing and financial services.

Because of its experience with a large hardware and services business base, DEC frequently has the opportunity to propose custom outsourcing solutions to its clients. Once a relationship has been established, future sales are easier to obtain and emphasis is placed on the relationship rather than the cost.

Approximately 50% of DEC's new contracts result from deals with existing clients. Response to Request For Proposals (RFPs) account for 30%, and 20% is attributable to direct sales activity.

6. Recent Events

- Eastman Kodak, 1989—Under this five-year agreement, DEC is responsible for the management of Kodak's worldwide telecommunications network. DEC manages Kodak's voice, data, and text communications, which link over 145,000 employees worldwide. As part of the agreement, Digital hired over 200 of Kodak's employees and acquired the company's telecommunications resources. The agreement requires integration of services and equipment from AT&T, IBM, U.S. Sprint, and the Rochester telephone company. This is one of DEC's largest systems operations projects.

- Imperial Oil Ltd.—In July 1991, Imperial Oil Ltd., a $7 billion subsidiary of Exxon, entered into an extensive outsourcing pact with DEC. The contract covers all aspects of Imperial's information systems from mainframes to microcomputers. Under this agreement, DEC is responsible for management of the desktop services, and Imperial's communications needs.

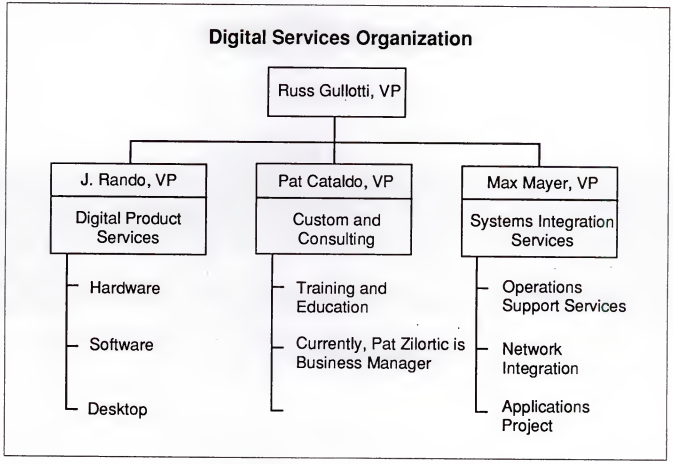
- Earle M. Jorgenson—In August 1991, DEC entered into a $16 million outsourcing contract with the Earle M. Jorgenson Company. Under this agreement, DEC will provide systems management and plans to port Jorgenson's diversified applications to DEC VAX 9000 mainframes. DEC, the prime contractor, is working with Distribution Architects, Inc. of Tempe, AZ, which will supply transaction processing, applications and data base software.

7. Organization

Systems operations activities are handled by Digital Services, which is also responsible for the SI activities. Digital Services is organized as illustrated in Exhibit DEC-3.

Digital places great emphasis on the education and training of its employees. DEC's focus on education support began in 1962 and in 1990 its operations had grown into a worldwide training network comparable in size to a university with a student population of more than 26,700.

EXHIBIT DEC-3

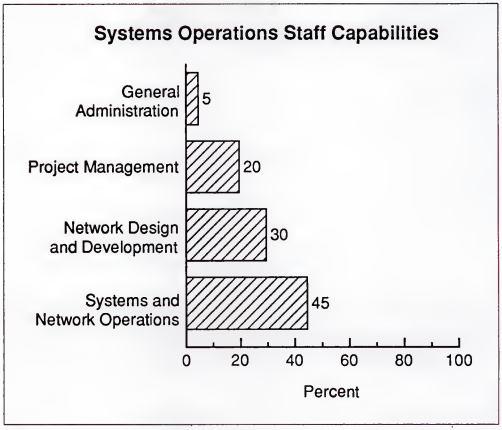


8. Systems Operations Alliances

Many of DEC's alliances are formed for SI purposes, as well as other reasons, and evolve into SO relationships. The capabilities of the DEC staff are distributed within the organization, as illustrated in Exhibit DEC-4.

DEC uses alliances to support its SO business through subcontract relationships, prime relationships, consortiums, and general partnerships which will bring new skills and strengthen its market presence. The company's systems operations, as well as system integration, relationships include Andersen Consulting for logistics packages, Price Waterhouse for EDI, and CSC for telecommunications software.

EXHIBIT DEC-4



The company currently uses alliances to provide services such as business consulting, computer systems operations, network management, applications design/development, applications maintenance, packaged applications software, disaster recovery services, and equipment maintenance.

DEC offers modular outsourcing services to strengthen its alliances with customers by placing emphasis on allowing users to augment their internal capabilities without increasing staff or deflecting key personnel from their core business.

9. Systems Operations Marketing Strategy

DEC believes cost containment and control, market and competitive advantage, focus on core business, and access to technical talent and skills will place the company in a strategic position to meet its growth expectations.

10. Systems Operations Customer Base

Digital has experienced the most success in areas such as manufacturing—particularly aerospace—automotive, utilities, and telecommunications.

Blockbuster Video—As of 1988, a well-known retailer had opened more than 1,200 stores over a period of five years. With a 350% rate of expansion, Blockbuster had established itself as one of the fastest growing companies in the U.S. When the retailer decided to go international, it formed an alliance with Digital. This alliance established DEC as the single source of support for the opening of each new international store. The company also created specifications for system hardware and software to support a help desk function. At contract end, Digital had garnered over $6 million in revenue.

1990/U.S. Census Bureau—DEC was selected to provide hardware, complete automation, and networking of all Census records. Under this $80 million contract, the company performs all data collection and analysis, and is responsible for the monitoring of assembly, delivery, and installation processes.

Alcoa Aluminum—In October 1989, Digital won an $11 million contract for hardware and desktop services to the Alcoa Technical Center in Pittsburgh, PA. Under this contract, Digital will provide vendor management and service delivery for all hardware and software at the Center. The company will act as a single point of contact for all computer support resources in a multivendor environment. Digital is also responsible for creating a response center to provide service call handling, tracking, and delivery notification.

11. Summary and Future Directions

Digital has considered outsourcing a small subset of its Digital Services revenue base. It will expand as the market changes to include services that Digital performs well—namely desktop services, network management and applications management. As the company refines its service orientation and lessens its emphasis on hardware, Digital has the resources to redeploy effectively into the outsourcing arena. There are strong signs that this is indeed in process.

Digital is currently redirecting its marketing forces to pursue outsourcing opportunities more aggressively. Known to have an effective internal training program, the company should be able to realign into marketing efforts completely in 1992 and begin gaining more outsourcing revenue to lessen its dependence on hardware.

COMPANY PROFILE

Electronic Data Systems (EDS)

1. Key Outsourcing Contacts

Outsourcing is an integral part of EDS' business. For general information please contact Peter V. Abene, Director of Marketing:

5400 Legacy Drive
Plano, TX 75204

2. Description of Principal Business

Electronic Data Systems Corporation, founded in 1962, is a leading information and communications services company providing information processing, consulting, systems management, systems integration, and communications services to the financial, insurance, retail distribution, manufacturing, transportation, energy, and communications industries domestically and internationally, and to state, local, and federal government. These markets include banking; credit unions; property, life, health, and casualty insurance; distribution; manufacturing; transportation; retail; and energy.

- EDS currently has more than 71,000 employees and more than 8,000 clients in all 50 states and in 30 other countries worldwide.
- EDS' largest clients are General Motors Corporation (GM) and its subsidiaries, which contributed approximately 41% ($3.3 billion) to EDS' 1992 revenue.

3. Outsourcing Service Characteristics and Capabilities

The company currently operates 18 Information Processing Centers (IPCs) worldwide. The outsourcing for many of its SO customers are conducted at these centers in a multiple-client environment. These IPCs are interlinked via a network. The processing load can be shifted from one center to another as the need arises.

There are 79 other data centers operated and owned by EDS throughout the world, serving single clients. In addition, EDS operates other data centers that are owned by the client.

Most of its contracts are for a minimum of three to five years, but the terms and conditions vary considerably from industry to industry and cannot be

categorized into convenient groupings, such as fixed price or cost-plus fixed fee.

EDS has the internal capabilities to provide all the required outsourcing services to its clients, ranging from business consulting to equipment maintenance, but still chooses to use alliances to supplement its own resources in many instances. Typical alliance partners will be further identified in Section 8 below.

4. Markets Served

EDS is a supplier to a broad range of industries in the commercial market. EDS has outsourcing arrangements with federal, state, and local government customers.

Recent contracts awarded to EDS in the federal, state, and local sector include the following:

- In mid-1992, EDS won a potential $399 million contract with California's Department of Health Services. EDS will be processing Medicaid claims and making enhancements to the current processing system.
- In February 1992, the Federal Aviation Administration (FAA) awarded to EDS the Project CORN (Computer Resources Nucleus) contract for $508 million. The CORN project will provide mainframe turnkey operations for ADP resources necessary to meet management information requirements of the regions, centers, and headquarters elements of the agency.
- In the first quarter of 1992, EDS won a recompetition for a five-year contract to operate and maintain the Automated Licensing and Registration System (ALARS) for the Massachusetts Registry of Motor Vehicles.
- EDS offers financial institutions technology-based business solutions through systems integration, outsourcing, and service bureau operations. Products and services include data processing, communications, information management, back-office, bank card, and payment services. The company currently serves more than 6,000 banks, credit unions, and savings institutions worldwide.

EDS provides FM, processing services, and turnkey systems to commercial insurance companies and Blue Cross/Blue Shield organizations. Examples of such contracts include the following:

- In the first quarter of 1992, EDS was awarded its largest contract ever in the health and benefits area when it signed with Blue Cross/Blue Shield of Massachusetts. EDS will be assuming responsibility for all IT services under the $800 million, 10-year agreement.

- In the second quarter of 1991, Jackson National Life renewed its relationship with EDS for another $200 million over 10 years.

EDS also provides a range of outsourcing and professional services to domestic and international clients. EDS was one of the world's first commercial outsourcing specialists and has emerged as a major force in both government and commercial markets.

Examples of recent domestic commercial contracts obtained by EDS include the following:

- In the final days of 1992, EDS signed a 10-year, $500 million agreement with Bethlehem Steel Corp. to manage all of Bethlehem Steel's computer and communications operations.

- In the second quarter of 1992, EDS signed a 10-year, $160 million contract with Smith's Food & Drug Centers, Inc. Under the agreement, EDS will develop new systems and migrate Smith's information processing to a client/server environment.

5. Competitive Position

The company has been active in the commercial outsourcing arena for 30 years and in the federal government arena for 25 years. In the early years, the process was known either as facilities management or operations management, but it is essentially the same set of activities that is now known as information systems outsourcing.

Approximately 41% of EDS' total 1992 revenue was derived from its parent company, GM, and 2% was derived from interest and other sources. The remaining 57% of total revenue was derived from clients in various industries, including banking and finance, insurance, manufacturing, retail, distribution, transportation, and energy.

EDS' 1992 source of revenue by industry market (including captive GM revenues) follows:

Manufacturing	33%
Financial	12%
Government	12%
Insurance	5%
International	23%
Commercial	15%

Corporate management at EDS recognizes the following primary competitors in its major markets. A different set is dominant in each sector, though some are common to both sectors. Exhibit EDS-1 identifies them for commercial and federal sectors.

EXHIBIT EDS-1

Major Competitors in Each Market Sector

Commercial	Federal
IBM	IBM
CSC	CSC
Andersen Consulting	Boeing
Cap Gemini Sogeti	PRC, Inc.
Perot Systems	Unisys

6. Recent Events

Recent acquisitions concluded by EDS include the following:

- In the fourth quarter of 1992, EDS acquired Cummins Cash and Information Services (CCIS), a subsidiary of Cummins Engine Co. CCIS is a leading provider of IT services to the trucking industry.
- In the first quarter of 1992, EDS acquired Atlanta-based Energy Management Associates, Inc. (EMA). EMA provides planning software and regulatory and management consulting to the electric and gas utilities industry.
- In the first quarter of 1992, EDS acquired a 19.9% equity interest in Japan Systems KK, a publicly held corporation providing systems integration, software development, communications systems, and hardware to the Japanese market. The company serves customers in a wide variety of industries, including manufacturing, utility, telecommunications, and financial, as well as government.
- In the fourth quarter of 1991, EDS completed the acquisition of the McDonnell Douglas Systems Integration Co. (MDSI). In the purchase, EDS acquired the company's Unigraphics computer-aided design and manufacturing product line. EDS has been successful at implementing the Unigraphics systems at many players of the discrete manufacturing industry, such as General Electric Aircraft Engine and Power Generation, Pratt & Whitney, McDonnell Douglas, and General Motors.
- In the second quarter of 1991, EDS acquired SD-Scicon, a leader in the software systems and information technology (IT) services field based in the United Kingdom. Also included in the transaction was GFI Informatique, one of the largest outsourcing companies in France.

- In the first quarter of 1991, EDS entered into an agreement to acquire a substantial portion of the assets of OAN (Operator Assistance Network), based in Van Nuys, California. OAN provides billing and collection services, specialized data processing, and receivables financing to long-distance telephone companies, pay phone owners, and operator-assistance and information-service providers.

- In the third quarter of 1991, EDS acquired certain assets from Creative Management Systems, Inc. (CMS), based in Toms River, New Jersey. Under the agreement, EDS acquired CMS' computer software system, which provides a wide variety of services and options to cable television operators in the United States and abroad.

7. Organization

EDS is organized to support individual industries and the business needs of its customers. The company's current organization structure is summarized in Exhibit EDS-2.

The organization features four components including the following:

- Industry: Strategic Business Units (SBUs) organized by industry

- Geography\Culture: SBUs organized along geographic line

- Infrastructure: Strategic Support Units (SSUs), such as IMC Operations, Field Services, and Applied Engineering, as well as additional support units in areas such as employee development, purchasing, marketing, planning, and consulting

- Corporate: Administrative support SSUs

There are three levels of corporate governance within each of the four above components as follows:

- Unit: The SBU and SSU levels are the most significant because they are closest to the customer. SBU functions include marketing and business development, sales and sales support, systems engineering, products and services, business operations, and financial responsibilities. SBUs are responsible for working with other SBUs and SSUs to find the resources, products, and services that best meet customers' needs.

EXHIBIT EDS-2

- Group: Group Executives develop five-year business plans, coordinate marketing and selling functions, and monitor and enforce teamwork, quality, and customer satisfaction. In the Industry, Infrastructure, and Corporate components, Group Executives are responsible for developing global strategy within their areas. Group Executives in the Geography/Cultural component are responsible for the strategy within their region.

- Group Operations Council: The most senior operative executives in global industries have responsibility for market planning and direction. The Council will link business strategies among industry SBUs and geography/culture SBUs.

- The Leadership Council remains the company's policy-setting body.

EDS has a strong, active alliance program for its outsourcing business. EDS states that through a variety of partnership agreements, it is able to provide customers with greater value through enhanced technological and industry knowledge, resources, products, and services. Joint development allows EDS to serve as a major influence in the development of vendor hardware and software. These strategic alliances allow EDS to draw on the strength and expertise of other companies and offer a wider range of services and products to meet customer needs.

8. Outsourcing Alliances

The company has in place more than 6,000 vendor contracts with support organizations. Recent alliances include the following:

- In July 1992, CARP Systems International, Inc. (CSI) and EDS entered into an agreement to provide advanced manufacturing planning capabilities to manufacturing customers. Included in this agreement is the marketing of CSI's Advanced Planning System (APS) which provides strategic manufacturing planning simulation applications and tools.

- To further its systems integration business, EDS joined NCR's Systems Integrator Alliances Program in February 1992. Under the agreement, EDS will provide systems integration consulting and services to the commercial marketplace using NCR's enterprise-wide computing systems.

9. Outsourcing Marketing Strategy

EDS expects to continue to grow significantly in the outsourcing market, both by expanding penetration in current markets and by entering new markets. In the latter case, the selection criteria for identifying new markets will include the size of companies in that sector, the changes occurring in that sector, and how they will influence the receptivity of the prospect to

outsourcing. In addition, the market sector will have to include enough viable prospects to make entry a profitable venture for the company.

EDS has a 33-year history of success in outsourcing to establish its credibility in the industry. It uses this background as well as its known telecommunications expertise to establish its reputation relative to its competitors. It owns one of the largest privately owned networks in the country, EDSNET, which links its 18 Information Processing Centers.

It positions itself as uniquely qualified to provide any of the resources that a particular outsourcing opportunity may require. It has also pioneered the acquisition of client data centers and operations staff to ease the transition to external outsourcing environments and provide an additional financial incentive for the move.

10. Outsourcing Customer Base

EDS has 8,000 customers worldwide. INPUT cannot identify and EDS does not provide specifically which of these are exclusively outsourcing clients. Five typical major clients give a good indication of the range of EDS' contracts, however:

- Del Monte Foods—EDS provides all applications enhancement, information processing, and telecommunications management. This 10-year deal stems directly from a previous EDS systems integration project, under which Del Monte's mainframe-based applications were moved to a distributed, client/server environment.

- Mory TNT—EDS will develop, maintain, and operate Mory's warehouse, logistics, and distribution applications under the largest outsourcing award made in France during 1992.

- National Car Rental—EDS is providing all of National's information processing and communications services. Under the $500 million, 10-year agreement, EDS will market National's own hardware and software to other car rental companies.

- Montgomery Ward—EDS will assume full responsibility for developing and implementing fully integrated retail applications under this five-year contract.

- Postal Buddy—EDS will help develop, install, and operate 10,000 automated, self-service kiosks offering a variety of postal-related products and services.

11. Summary and Future Directions

EDS, the pioneer in facilities management, has broadened its services and is the clear leader in the commercial outsourcing business. Its size, experience, and financial resources will continue to make it a very aggressive and capable competitor in this market.

Its broad vertical market focus and extensive early experience has recently been supplemented with an aggressive acquisition policy in which it has obtained not only major processing contracts, but also much expertise in such fields as title insurance and airline reservation systems.

COMPANY PROFILE

The Genix Group

1. Key Outsourcing Contacts

The outsourcing activities of The Genix Group are under the direction of Rudy Cifolelli, who is President and Chief Operating Officer. He reports directly to Patrick J. Scullion, President and Chief Operating Officer, MCN Investment Corporation. The executive offices of the company are located at:

5225 Auto Club Drive
Dearborn, MI 48126

2. Description of Principal Business

The Genix Group functions as a wholly owned computer services subsidiary of its parent corporation, MCN Corporation. MCN Corporation is a holding company for Michigan Consolidated Gas and MCN Investment Corporation. In the most recent fiscal reporting period, the Genix Group listed 350 full-time employees and sales in excess of $62 million. The Genix Group provides mainframe computer operations management, on-line and off-line data storage and management, systems software support, data telecommunications, network management, desktop support services, and high-quality, high-speed, laser printing and fulfillment services.

3. Outsourcing Service Characteristics and Capabilities

Exhibit GG-1 shows how The Genix Group views the change in its market over the next few years. All of the numbers represent a percentage of total revenues derived from outsourcing activities. The first chart pairing indicates that there will be no change in the next few years in the percentage of equipment that is client owned.

The second pairing shows no expected difference in location of equipment. This suggests that The Genix Group will continue to maintain equipment at its own facilities.

The third pairing in Exhibit GG-1 shows very slight change in Genix's single-client/multiple-client ratio. This suggests that as Genix increases its outsourcing business, clients will find it more economical to utilize shared sites.

EXHIBIT GG-1

Market Characteristics

		1992 (% of Total)	1995 (% of Total)
Equipment Ownership	Genix Group	95	95
Percent of Revenue	Client	5	5
Equipment Location	Genix Group	95	95
Percent of Revenue	Client	5	5
Processing	Shared	95	98
Percent of Revenue	Dedicated	5	2
Applications Software			
Developed by	Client	50	30
	Genix Group	0	10
	Third Party	50	60

The three pairings, taken together, suggest virtually no change in the way Genix will conduct its outsourcing business. Currently, all of Genix's outsourcing activities involve third-party or client-developed applications software.

However, as the fourth grouping in Exhibit GG-1 shows, this will change slightly over the next few years. Genix plans to expand its outsourcing services to include software development; however, it will still rely heavily on third-party or client-developed applications software.

The bulk (80%) of Genix's outsourcing contracts are five to eight years in duration. INPUT asked The Genix Group to characterize the duration of its contracts. The results showed a dominance of long-term contracts.

- 1 to 2 years: 10%
- 3 to 4 years: 10%
- 5 to 8 years: 80%

Exhibit GG-2 compares the distribution of outsourcing revenue under various pricing alternatives. Genix anticipates no change in its business base over the next few years.

EXHIBIT GG-2

Distribution of Revenue

Contract Type	1992 (% of Total)	1995 (% of Total)
Fixed Price	0	0
Transaction Volume	0	0
Resource Utilization	100	100
Cost Plus Predefined Margin	0	0

Exhibit GG-3 compares outsourcing capabilities derived from internal sources versus those derived from alliances. The data suggest that Genix has established alliances for most of its outsourcing capabilities. This includes the use of alliances to provide for disaster recovery services. There are several firms specializing in this discipline, which depends highly on advanced technology for cost-effective solutions.

EXHIBIT GG-3

Capabilities

Internal and Alliances	None
Internal Only	• Computer Systems Operations • Network Management
Alliance Only	• Applications Design/Development • Applications Maintenance • Disaster Recovery Service • Equipment Maintenance • Outplacement for Technical Staff • Packaged Applications Software
Neither Internal nor Alliance	• Business Consulting

4. Markets Served

Currently, The Genix Group derives its outsourcing business primarily from the commercial market. It serves more than 80 commercial customers within a wide range of vertical markets. Genix's contracts provide revenues averaging $2.5 million annually. It focuses primarily on outsourcing business utilizing IBM or compatible mainframe equipment.

5. Competitive Position

Genix has been providing outsourcing support in the commercial marketplace for nine years. During the first nine months of 1992, Genix added more than 10 companies to its client list, increasing its client base to more than 80, including 13 Fortune 500 companies. Genix's 1991 revenues reached $62 million, an 11% increase over 1990 revenues of $56 million. This growth is attributable to significantly increased demand for outsourcing services from current Genix customers.

As the Genix Group's outsourcing business grows, it expects its primary competition to come from large, established firms, including EDS, IBM's commercial outsourcing division (ISSC), Litton, and Affiliated Computer Services.

The Genix Group operates two large data centers in Dearborn, Michigan, and Pittsburgh, Pennsylvania.

6. Recent Events

In 1992, The Genix Group was awarded a multiyear contract, valued at $11 million, with Gantos, a national retailer of women's clothing. Genix is providing Gantos with mainframe operations and processing services.

During the third quarter of 1992, The Genix Group signed an expanded contract with Comshare, a leading developer of management reporting software. Comshare, a Genix Group customer for many years, relies on The Genix Group for outsourcing services. This contract consolidates processing previously provided by another outsourcing vendor. The Genix Group also signed an agreement to co-market Comshare's Commander/EIS product line to Genix Group customers.

In August 1992, The Genix Group signed a multiyear contract with Wheeling-Pittsburgh Steel Corporation to re-engineer and manage Wheeling-Pittsburgh's voice and data networks. Wheeling-Pittsburgh has been a Genix Group outsourcing client for more than two years.

During the second quarter of 1992, The Genix Group signed a contract with Scripps Howard, a newspaper publisher, for outsourcing services.

The Genix Group provides mainframe operations, telecommunications, and printing services to its sister company, MichCon, the largest natural gas distribution company in Michigan.

Copperweld Corporation, a Pittsburgh-based steel tube maker, renewed its contract in 1992 for the second time.

H. J. Heinz, a $5.2 billion food company, renewed its contract with The Genix Group in 1992.

7. Organization

As previously indicated, outsourcing services fall under the purview of The Genix Group, a subsidiary of MCN Corporation. Genix was founded by National Intergroup, Inc. in 1984 to capitalize on the information processing capabilities it had built for NII's metal businesses. Genix then expanded its customer base to include a wide variety of companies in diverse industries. In June 1990, MCN Corporation, which owns MCN Computer Services, Inc., agreed to buy Genix, thus enhancing MCN Corporation's outsourcing strength and competitive edge. The Genix Group is the result of that acquisition.

The Genix Group currently has a staff of 350 full-time employees supporting outsourcing activities. The staff is engaged in the following areas:

- Network design and development: 20%
- Systems and network operations: 40%
- Technical support: 25%
- Sales: 10%
- General management and administration: 5%

8. Outsourcing Alliances

The Genix Group uses alliances to meet expanding customer requirements such as applications support and disaster recovery. Genix has teamed with other computer services companies to meet requirements of the market for full-service outsourcing opportunities.

9. Outsourcing Marketing Strategy

The Genix Group plans to expand within its existing client base as well as to enter into new markets. With more than 80 commercial clients, Genix has significant opportunities for expansion within its client base. It expanded its revenues from the current client base during 1992 and extended contracts for a number of customers.

In terms of new business, Genix expects to receive 70% of its new contracts from proactive direct sales activity, with the balance coming from existing clients. This response, combined with earlier discussions on revenue projection, suggests that Genix's business will be growing rather steadily over the next few years. Genix expects its competitive edge to result from its ability to provide customers with outsourcing solutions which enable them to focus on core business aspects.

10. Outsourcing Customer Base

As previously indicated, The Genix Group has more than 80 commercial outsourcing customers. Among its listed clients are:

- H. J. Heinz Co.—All mainframe operations services for all North American affiliates
- Gantos—All mainframe operations and processing services
- American Standard, Inc.—Mainframe operation services for all business units in North America, with the exception of Trane
- Duracell, Inc.—All mainframe computer operations
- Comshare—All mainframe computer operations
- Wheeling-Pittsburgh Steel—Mainframe computer operations and network management services

11. Summary and Future Directions

The Genix Group has an established reputation for service and strong customer support. It currently has multiple clients in some industry segments and continues to expand in these industries and others.

Because Genix views outsourcing as a highly profitable and steadily increasing business, INPUT expects it to continue to increase sales and marketing efforts.

COMPANY PROFILE

Integrated Systems Solutions Corporation (ISSC)

ISSC is a wholly-owned subsidiary of the IBM Corporation. Headquartered in Tarrytown, NY, it was founded in 1991 to participate fully in the expanding outsourcing and systems integration markets.

1. Key Outsourcing Contacts

The two senior executives at ISSC are responsible for outsourcing activities. They are:

Dennie Welsh
Chairman and CEO
560 White Plains Road
Tarrytown, NY 10591

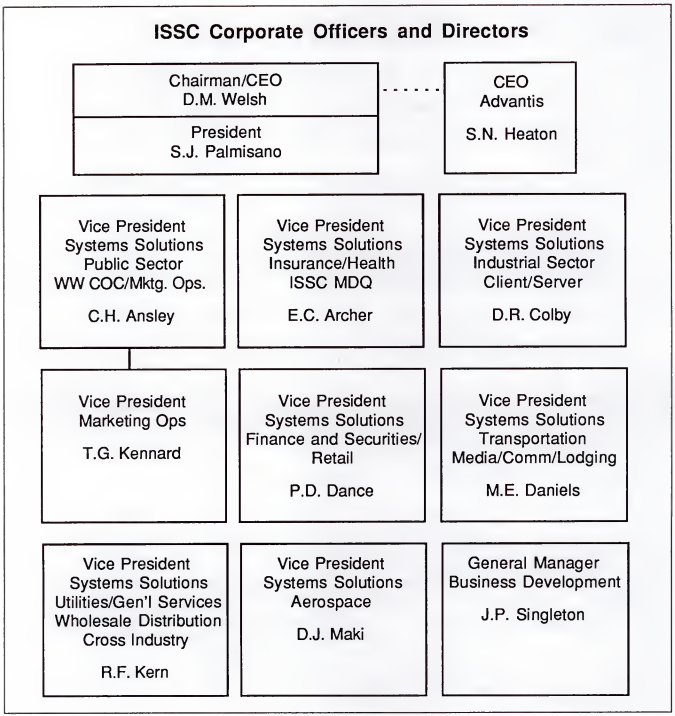
Samuel J. Palmisano
President
560 White Plains Road
Tarrytown, NY 10591

The organization chart, effective on January 1, 1993 is included in Exhibit ISSC-1. It illustrates how the organization is structured, focusing on vertical markets that ISSC has targeted.

2. Description of Principal Business

ISSC was founded in 1991 to manage and operate the information services business of the IBM corporation. Its original charter called for it to take over all internal information services operations for the U.S. Marketing and Sales Organizations of IBM as well as to assume responsibility for the existing commercial systems operations and disaster recovery contracts that IBM held at that time. Since that time the charter has been expanded to include commercial systems integration activities also, which seems like a natural outgrowth. ISSC does not have any responsibility for the large volume of federal government business that IBM holds. That is the responsibility of the IBM Federal Market Corporation, another wholly owned subsidiary of IBM.

EXHIBIT ISSC-1



3. Outsourcing Service Characteristics

IBM was providing systems operations services for many years within its various service organizations. Eventually it separated the Service Bureau

Corporation from the rest of IBM, as a separate organization, and subsequently sold it to the Control Data Corporation. For many years thereafter, it was relatively inactive in the systems operations market. It was inevitable that this service offering would again become a part of the broad range of products and services provided by the company over the years. This became even more likely as the outsourcing market began expanding and more organizations sought help from vendors in managing and operating their information systems operations. By organizing ISSC, IBM became able to fully participate in the growing outsourcing market without violating its long-standing consent decree with the Justice department.

Currently, ISSC reports that they have a total of 197 large processors installed in a number of undisclosed Data centers. Some of these centers are former IBM processing centers, others are centers that ISSC acquired as part of an outsourcing agreement with a client.

ISSC currently has approximately 8000 employees, not including the 3000 additional employees in Advantis, the network management organization which is a joint IBM/Sears venture managed by ISSC. INPUT prefers to treat Advantis as a separate outsourcing vendor specializing in network management, even though IBM does share ownership of Advantis with Sears and ISSC has management responsibility for Advantis within IBM. ISSC also predicts that the number of employees will increase by several thousand in each of the coming years as they assume responsibility for more and larger client data center and applications development operations.

The processor base provides an estimated 18,000 MIPS of processing capacity to the ISSC client base. Sixty-six thousand gigabytes of storage capacity are in place to service this processing capacity. These numbers are, of course, a moving target that is likely to expand as new outsourcing clients are added to the existing base.

4. Types of Outsourcing Arrangements

ISSC does not record data on outsourcing contracts in a manner that allows us to clearly break out the types of arrangements according to the INPUT definitions, namely platform operations, applications operations, network management, desktop services and applications management.
The pattern can be derived from announced awards, however, and this can be supplemented by some comments from ISSC.

In its early awards, ISSC typically only assumed responsibility for the data center operations. More recently, it has been acquiring some contracts where it also assumes responsibility for the applications management. McDonnell Douglas is an example of this. In some cases ISSC assumed responsibility for the applications operations in conjunction with another partner. In the case of Continental Bank of Chicago, for example, Ernst

and Young has responsibility for the applications management and ISSC performs the data center operations management functions.

Advantis will most likely assume responsibility for network management functions as a partner or subcontractor to ISSC when that service is included in the outsourcing arrangement.

ISSC has certainly done applications management work on its own, though this type of activity has more traditionally been considered systems integration activity within the company, even when a long-term contract was involved. In that area also, the IBM trading centers have retained responsibility for much of this activity. Whether that will change or not as ISSC places increased emphasis on its systems integration capabilities has yet to be seen.

5. Markets Served

ISSC has a current client base of approximately 2000 customers. The company has identified eight vertical industries as targets for its services. These are summarized in Exhibit ISSC-2 below.

EXHIBIT ISSC-2

ISSC's Market Targets

Transportation	Finance
Retail	Utilities
Process Manufacturing	State and Local Government
Discrete Manufacturing	Insurance/Health

Many of ISSC's identified targets have been the traditional markets in which IBM has also been successful with its other product lines. It is only natural that these would be the targets for ISSC since the same marketing force is selling its services. It does allow ISSC to capitalize on the existing client relationships with the target accounts.

The success of ISSC in the finance or banking sector, as well as in the retail industry, has been well documented in the press. More specifics about these are discussed in the section on customer base.

The two manufacturing vertical industries are also traditionally fertile territory for IBM. The recent win at McDonnell Douglas is an example of the potential in this industry, particularly in sub-sectors such as aerospace. State and local, insurance, and health are also promising outsourcing markets.

The utilities and transportation industries are not traditionally markets that are receptive to outsourcing arrangements, but there is no doubt that ISSC, through its parent, has good market relations in those two industries. There are recurring rumors that the utilities outsourcing market is about to come alive and ISSC feels there is potential there also. ISSC spokespersons also indicated they are targeting opportunities in the higher education and media markets.

6. Competitive Position

ISSC ranks among the top five outsourcing vendors in the U.S. market, even though it has only been in the market for two years. It entered the market with an established base of capacity and clients, but has aggressively closed some very large contracts since that time. Exhibit ISSC-3 illustrates how it compares in market share to other industry leaders.

EXHIBIT ISSC-3

Leading U.S. Outsourcing Vendors

Vendor	1992 Market Share (Percent)
EDS	14
CSC	5
ISSC	4
First Data	3
Digital	2

ISSC competes directly with EDS and CSC and some of the smaller vendors in their selected markets. It is the stated objective of ISSC to be the low-cost provider in the market, providing high-quality service that takes advantage of economies of scale and the latest technology and software.

Though there may be some inaccuracies because of the way revenue is credited, it is estimated that ISSC's 1991 revenues were $200 million from outsourcing operations.

ISSC indicates that they currently have over $2 billion in contracts on the books and expect that number to rise substantially in the next year.

7. Recent Events

On December 1, 1992, ISSC assumed management responsibility within IBM for Advantis, the network management and services subsidiary formed by the merger of IBM's Information Networks division and Sears Business Services. Though Advantis can be considered an outsourcing vendor in its own right, specializing in network management, ISSC's relationship with that organization will give it access to all the communications services technology it will need to be a strong outsourcing vendor.

On January 1, 1993, Mr. Dennie Welsh was promoted from president to chairman and chief executive officer of ISSC. At the same time, Samuel Palmisano was named president of the organization. This provides two senior executives, both seasoned IBM veterans, to direct and develop the organization as it continues to expand.

In November and December 1992, ISSC also announced four new outsourcing contracts in a variety of industries:

- As previously mentioned, ISSC has entered into a 10-year agreement with McDonnell Douglas Corporation to provide a full range of services to the aerospace company. The arrangement provides for the acquisition of McDonnell's computing infrastructure, from mainframe computers to desktop workstations, including voice and data communications by ISSC. ISSC will have responsibility for fiscal, scientific, manufacturing production, and engineering programs in the civilian and defense sectors.

- ISSC or its partners in the outsourcing agreement will acquire the data centers that McDonnell Douglas now owns as well as the 1,450 IS employees of McDonnell Douglas' Aerospace Information Services Division.

- Another 10-year agreement was signed in mid-January between ISSC and Hook-SuperX, Inc., a retail drug chain, to provide outsourcing and integration services. ISSC will first consolidate the operations of Hook's three data centers into one new center and then operate that center for the client. In addition, they will install and maintain IBM's 4680 point-of-sale system in each store.

- In mid-January, ISSC also signed an agreement with Kaiser Permanente, the nation's largest Health Maintenance Organization. Under this agreement, ISSC will assume responsibility for the processing for five of the client's regions. This agreement also has provisions for ISSC to provide extensive systems integration services to Kaiser.

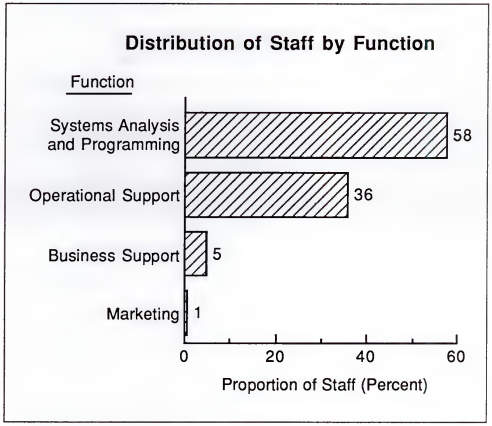
- In mid-December of 1992, Norrell Corporation, a provider of specialized staffing services for both home health care and business environments, signed a 10-year agreement with ISSC. That agreement includes

applications development and support, help desk, print operations, business recovery services, consulting services, and data center management and operations. In effect, an outsourcing vendor of home health care and business services has chosen to outsource its own systems functions.

8. Organization

As mentioned above, ISSC currently has approximately 8,000 employees in place across the United States. Since ISSC relies on IBM's U.S. Marketing and Sales force for its sales and marketing, Exhibit ISSC-4 indicates a very low percentage of staff assigned to marketing and none to sales.

EXHIBIT ISSC-4



As the charter of ISSC expands to include more systems integration services, as recently announced by Dennie Welsh, the proportion of staff employed in systems analysis functions should rise. If ISSC should eventually establish its own sales and marketing force, as some of the other IBM subsidiaries are beginning to do, then the ratios and percentages will change again.

9. Outsourcing Alliances

ISSC does have an extensive formal alliance program to supplement its own capabilities. These relationships cover both business consulting and cooperative software arrangements. Examples of the latter cited by ISSC spokespersons include a long-standing relationship with Hogan Systems in the banking and retail markets and a cooperative software relationship with Katya Systems in the CAD/CAM area.

It apparently does follow an ad-hoc policy of teaming in situations where it needs certain partners, however. Examples of this type of arrangement include:

- Continental Bank of Chicago, where Ernst and Young is responsible for the applications management of the bank while ISSC is responsible for the data center operations.
- McDonnell Douglas, where Unisys will run a Long Beach data center as part of the agreement while ISSC runs the St. Louis processing center. Obviously the Long Beach center will be a Unisys-based computing environment.
- In several outsourcing contracts, Computer Task Group provides the data center staff for the newly acquired centers or hires the existing staff from the client.

10. Outsourcing Market Strategy

ISSC is positioning itself to be a full service provider to the client, seeking an outsourcing solution to its IS problems. Two recent developments herald that. First, the management of Advantis by ISSC gives it unparalleled access to the communications technology it needs to help its outsourcing clients take advantage of the changing telecommunications environment and link their geographically remote sites. Second, the recent IBM decision to redefine ISSC's role to be the primary systems integration services provider to the IBM defined trading areas will build an important capability into ISSC. There is increasing evidence that outsourcing clients return to the same vendors when additional systems integration work is needed. In fact, ISSC's recent contracts at Norrell and Hook SuperX have a significant systems integration component built into them.

ISSC spokespersons discussed their strategy with INPUT in the following terms:

Objectivity—"The first role of ISSC representatives is to evaluate the client's condition. They may not suggest outsourcing but tell them they're running a good shop and can't gain anything by outsourcing."

Flexibility—"ISSC's role is often cast as the organization that helps the client get to where it wants to go. That may include developing the strategy with the client."

New Technology—"As a new company with fresh ideas, ISSC can be a conduit for new technology when that is appropriate."

Understanding—"If an outsourcing arrangement is not working out, then ISSC will change it. We will do it differently as the circumstances change."

Another element of ISSC's strategy has been described as providing data services to a range of clients. This involves the installation of a major application package on an ISSC platform and sharing access to that application across companies. The example cited was payment systems processing. ISSC and other outsourcing vendors do that now for a variety of Blue Cross/Blue Shield organizations. There are many similar situations in the business community that are amenable to such a solution.

11. Outsourcing Client Base

ISSC has a large client base that is expanding at a steady pace, currently numbering over 2,000 external (non-IBM) clients. Approximately 1,500 of these hold Business Recovery (disaster recovery and backup) contracts with ISSC, about 50 currently have standard outsourcing contracts with the company, and the rest have systems integration contracts. The outsourcing contracts range from platform outsourcing operations to applications operations, some with a desktop services component included. The network management components of ISSC's outsourcing arrangements are currently being served by Advantis.

As mentioned earlier in the section on markets served, the ISSC client base is spread over at least eight vertical industries. Exhibit ISSC-5 is a list of the major contracts identified from publicly available records in the last three years.

12. Summary and Future Directions

In summary, ISSC has built an impressive market presence in a short time. It has in place the internal structure and the relationships with other IBM components that will allow it to provide full service to its outsourcing clients. Integration skills and telecommunications skills are in place now. Desk top service skills are not yet clearly evident but IBM has that capability to pass on to ISSC as needed.

The signals are becoming clearer that IBM's divisions and subsidiaries may someday abandon the single sales force concept. Already the printer and the PC subsidiaries are doing so. Though the trading areas are servicing the

same channels that ISSC is servicing, there are still compelling arguments for a separate sales force. It remains to be seen whether that will evolve.

EXHIBIT ISSC-5

ISSC Major Contracts

Client	Value ($M)	Length (Years)	Platform	Applications	Network	Desktop
McDonnell Douglas	3,000	10	X	X	X	X
United Technologies	1,000	10	X			
First Tennessee Bank	150	6	X			
Eastman Kodak	500	10	X			
Continental Bank	450	10	X	X		
Zale Corporation	286	10	X			
Riggs Bank	160	10	X			
Comdata Holdings	120	5	X			

ISSC is also large enough and well structured enough to participate in business systems outsourcing as it emerges in the market. Its recent contract with Norrell is particularly interesting in this regard. One of Norrell's divisions specializes in taking over complete staff administrative functions for clients. That's business systems outsourcing without the data center management component. ISSC will certainly gain valuable insight from this relationship and should be ready when the demand increases . . . to do it either alone or in a partnership with its client.

ISSC will continue to expand its client base as the market continues to expand. It does not seem to have difficulty making business decisions and changing directions at the pace required to match competition. It appears willing and able to team with the key partners that can bring it more business. Prospects are for ISSC to be a very profitable subsidiary of the IBM corporation.

COMPANY PROFILE

May & Speh, Inc.

May & Speh, Inc.
Services & Solutions
1501 Opus Place
Downers Grove, IL 60515
708-964-1501
708-719-0447 (Fax)

Key Outsourcing Contact: Terry Cieslak
Title: President
Status: Private
Employees: 240
Total Revenue: $40 Million (FY 1992)
Total Outsourcing Revenue: $22 Million (FY 1992)
FYE: 9/30

1. Key Points

- May & Speh has been in the outsourcing business since 1947, making the company one of the oldest in the systems operations delivery mode.
- Platform operations services dominate the company's outsourcing revenue mix, accounting for 70% of outsourcing revenue.
- May & Speh normally competes for contracts requiring 200 MIPS or less, and supplies a blend of outsourcing, systems integration, and business process re-engineering services to its clients.
- The company offers customers a maximum processing charge alternative that distinguishes it from many of its competitors.

2. Company Description

May & Speh has been in the commercial outsourcing/timesharing business since 1947. The company performs outsourcing services as well as direct mail/marketing services.

Outsourcing services include customer platform systems operations, applications systems operations, network management, applications management, applications development (both mainframe- and client/server-based), and application maintenance services.

Direct mail/marketing services provide traditional direct mail services such as merge/purge, ZIP code appending/correction, change of address

processing, telephone number appending and demographic/psychographic information appending. Direct marketing services include marketing data base development, modeling, scoring, and effort and response analysis.

3. Financials/Revenues/Market Financials

Outsourcing revenues for May & Speh's Services and Solutions division increased from $19 million in 1991 to $22 million in 1992. The remaining 45% of revenue in 1992 was derived from the direct mail/marketing division of the corporation.

4. Market Financials

May & Speh participates in all commercial markets. The company intends to expand its current market base, but does not plan to participate in the federal sector, although limited government work is performed.

Providing platform operations functions has been the company's chief thrust and accounts for approximately 70% of the company's outsourcing revenue, as Exhibit MAY-1 illustrates. The proportion of revenue generated by other outsourcing services accounts for the remainder.

In late 1992, the company launched its System Integration Group, which specializes in PC/LAN and UNIX client/server solutions, with associated services such as business process re-engineering and downsizing/rightsizing assistance. Because of May & Speh's outsourcing services and the capabilities of the Systems Integration Group, the company is able to propose creative transitional outsourcing solutions. The Systems Integration Group uses various graphical user interface development tools such as Gupta, PowerBuilder, and others.

EXHIBIT MAY-1

Distribution of Outsourcing Revenue

Outsourcing Type	Proportion of Revenue (Percent)
Platform Operations	70
Network Management	3
Desktop Services	12
Applications Development	10
Applications Maintenance	5

May & Speh prides itself on strong sales and direct marketing skills. As Exhibit MAY-2 shows, current estimates are that 75% of new outsourcing contracts result from proactive direct sales efforts. New contracts from the existing client base account for the smallest amount of new business.

EXHIBIT MAY-2

Source of Potential New Clients

Source	Proportion of Customers (Percent)
Responding to new bids/RFPs	15
New contracts with existing clients	10
Proactive direct sales	75

5. Geographic Markets

Services are provided throughout the continental United States and Hawaii, as well as internationally for May & Speh customers that require such access.

Company headquarters are in Downers Grove, Illinois with a sales office in Los Angeles, California.

6. Operational Structure

The company's organizational and reporting structure is:

Albert J. Speh Jr.	Chairman
Lawrence Speh	President Corporate
	President Direct
Terry Cieslak	President, Services & Solutions
Michael Loeffler	Vice President, Direct Sales
Kenneth Schroeder	Vice President, Information Systems
Willard Engel	Chief Financial Officer
Claudia Colalillo	Vice President, Human Resources

Both outsourcing and systems integrations services and sales are the responsibility of Terry Cieslak's organization.

7. Employees

Almost 70% of the company's 240 total employees are involved in providing outsourcing services, as illustrated in Exhibit MAY-3. Outsourcing technical personnel are divided into two groups: systems and operational staffs.

EXHIBIT MAY-3

Employee Function Distribution

Function	Number of Employees
Outsourcing	165
Applications development & SI	110
Outsourcing operations & support	55
Direct mail/marketing	50
Administrative/executive	13
Sales and marketing	12

8. Objectives/Mission/Strategy

May & Speh believes it offers practical solutions to business problems at reasonable rates. Company Chairman Albert Speh insists the company's policy "doing what is right for the customer at all times" is practiced.

The company tends to compete in outsourcing situations requiring 200 MIPS or less, and supplies a blend of outsourcing and systems integration/ business re-engineering services in its contracts. It is capable of providing many of the same capabilities and services as some of the larger players in the outsourcing market (ISSC, EDS, and CSC, etc.). Agreement terms tend to be five years or less and allow customers a great deal of flexibility. The company prides itself on its partnership concept. This thinking has evolved into a pricing mechanism providing customers with a maximum processing charge that May & Speh believes makes it unique among its competitors.

May & Speh offers another option to its customers: transitional outsourcing services. This approach to outsourcing allows a customer to contract out its data center functions immediately to gain savings and subsequently use those savings to fund a downsizing/rightsizing initiative.

The Systems Integration Group is growing in strength and numbers. It is expected to contribute heavily to revenues in the 1994 time frame. Initial efforts have met with success and now the company is staffing up to meet workload projects.

9. Alliances

The company has a business alliance with Ameritech Information Systems to perform network management under the trademark of NCC Services—a May & Speh offering with Ameritech functioning as the technical/operation support arm. The alliance specializes in LAN, WAN, SNMP network monitoring, alerts, diagnostics, dispatch, repair, and reporting. Through other alliances, May & Speh can provide sophisticated network design, installation, and maintenance of LAN/WAN/TCP/IP networks.

The company's policy is to establish alliances to take advantage of specialized skills of other vendors. When it appears more profitable to incorporate specialized skills into internal capabilities, the company takes the necessary steps to do so.

Other alliances are in place to assist with systems integration projects as well as direct marketing.

10. Key Products and Services

The company's capabilities include a wide array of outsourcing options for its customers. Most services are provided by internal personnel. Exhibit MAY-4 lists the capabilities derived from internal sources and those from external alliances. Alliances are used where appropriate.

EXHIBIT MAY-4

Capabilities

Internal Only	Business management consulting Business process re-engineering (BPR) Network management Client/server development Downsizing/rightsizing
Alliance Only	Computer systems operations Application design/development Applications maintenance Packaged applications software Applications disaster recovery

Most contracts and agreements are customized to meet the customer's specific requirements. Typical ingredients of the contracts include the charges for processing and DASD utilization, telecommunications, and other services charges.

Proposed service levels play an important part in contract negotiations because these issues are the main management and control vehicles in outsourcing contracts. Although service level terms are customized based on customer need, the typical service levels of overall system availability, response times, problem escalation/resolution, customer system availability, and responsiveness are included in most contracts.

May & Speh estimates at least 15% of its outsourcing engagements are "transition" outsourcing contracts, in which the customer has opted to outsource its data center and redeploy staff to work on downsizing projects. Many customers view transition outsourcing as a practical way to self-fund downsizing of their computing platforms. It is also less traumatic for organizations to outsource their mainframe operations, once a decision has been made to downsize operations anyway. Customers can also take advantage of May & Speh's downsizing design and development services.

A small percentage of May & Speh's outsourcing contracts include assimilation of the customer's IS staff, and takeover of the customer's hardware obligations.

11. Marketing and Sales

Pricing of 60% of May & Speh's 1992 outsourcing contracts was based on resource utilization, such as processing and DASD, as shown in Exhibit MAY-5. For longer term agreements and large consumption levels, May & Speh offers a minimum/maximum pricing option that gives the customer price protection and curtails runaway charges for any reason. The company offers other pricing options, dependent on the customer's needs.

EXHIBIT MAY-5

Distribution of Contract Pricing

Type of Pricing	Proportion of Contracts (Percent) 1992
Fixed Price	5
Transaction Based	10
Resource Utilization Based	35
Resource Utilization Based Plus Fixed Minimum/Maximum	50

The company currently estimates 60% of its outsourcing contracts range from one to three years, and 40% average five years in length.

12. Clients

The company officially counts 46 outsourcing clients. However, due to the confidentiality agreements of its contracts, May & Speh is not at liberty to disclose many of its clients' names. Some of the company's clients that have agreed to be used as references are listed below:

- LaBarge, Inc.
- LaSalle Partners
- Robert Bosch, Inc.
- ViCorp Corporation
- Zenith Data Systems

13. Competitors

The company views its competitors as some of the giants in the IT industry that handle multimillion-dollar agreements:

- ACS
- EDS
- IBM (ISSC/Advantis)
- Computer Sciences Corporation (CompuSource)
- GENIX
- Litton Computer Services
- Martin Marietta
- Power Computing
- SHL Systemhouse

14. INPUT Assessment

May & Speh has taken a significant step toward accommodating customer needs for client/server distributed processing by launching the Systems Integration Group. User needs for vendor-supplied expertise in this area, plus the increasing demand for re-engineering services, are driving user decisions in all sectors of the IS market. However, the company may have to beef up its desktop services capabilities to include more operational functions as the diversity of requirements escalate and this market segment grows. At present, May & Speh only offers development services for desktop computing, and operational needs of the customer are usually supplied through a May & Speh vendor alliance if requested.

May & Speh does not currently offer business operations outsourcing services to its clients. The decision to enter this market segment will be based on how widespread the need for this service becomes in the next few years. May & Speh's direct marketing activities could be leveraged and expanded into a vehicle to provide business operations outsourcing.

Many of May & Speh's clients currently only require platform operations outsourcing services. May & Speh should reduce the proportion of these types of contracts in order to improve profit margins.

COMPANY PROFILE

Power Computing Company

1. Key Outsourcing Contacts

The outsourcing activities at Power Computing are under the direction of Robert Andrews, who is Vice President and General Manager. He reports directly to John Ruckert, Vice President of the Electronic Information Systems Division of McDermott International, Inc. The executive offices of the company are located at:

1930 Hi Line Drive
Dallas, TX 75207

2. Description of Principal Business

Power Computing is an information processing services provider. A division of Babcock & Wilcox, Power Computing has been supplying computer information services for 30 years. Babcock & Wilcox is a major operating unit and wholly owned subsidiary of McDermott International, Inc., a $3.6 billion worldwide energy services company.

3. Outsourcing Service Characteristics and Capabilities

Exhibit PCC-1 shows how Power Computing views the change anticipated in its market over the next few years. All of the numbers represent a percentage of total revenue derived from operations activities. The first chart pairing indicates that there will be significant change in the next few years in the percentage of equipment that is client-owned. Power Computing will realize a reduction in the percentage of revenues from its vendor-owned equipment contracts.

The second pairing shows slightly different percentages from the first for equipment locations. This suggests that Power Computing will continue to maintain a significant percentage of equipment at its own facilities, while realizing a slight increase in revenue from equipment at the client site.

The third pairing shows a significant change in Power Computing's single-client/multiple-client ratio. This suggests that as Power Computing converts ownership of vendor equipment, it will begin dedicating equipment to the client.

The three pairings, taken together, suggest some significant changes in the way Power Computing will conduct its outsourcing business. However, since it currently supports only two centers, some changes would be expected as the business grows.

The fourth grouping shows that while most applications software currently in use was developed by a third party, this percentage will decline significantly over the next few years. As Power Computing expands its outsourcing business, software developed by the company will be used more often. However, Power Computing has determined that it also can realize high revenues when applications software is developed by third-party vendors for the clients.

EXHIBIT PCC-1

Market Characteristics

		1992 (% of Total)	1995 (% of Total)
Equipment Ownership Percent of Revenue	PCC Client	100 0	80 20
Equipment Location Percent of Revenue	PCC Client	100 0	90 10
Processing Percent of Revenue	Shared Dedicated	100 0	50 50
Applications Software Developed by	Client PCC Third Party	25 5 70	40 20 40

Exhibit PCC-2 compares the distribution of outsourcing contracts under various pricing alternatives. Unlike some other vendors INPUT has profiled, Power Computing expects no dramatic change in its pricing approach.

The bulk of its charges will be from resource utilization contracts, although a slight reduction is expected.

The bulk of Power Computing's outsourcing contracts are three to five years in duration.

EXHIBIT PCC-2

Distribution of Revenue

Contract Type	Proportion of Contracts (Percent)	
	1992	1995
Fixed Price	0	10
Transaction Volume	0	0
Resource Utilization	80	70
Cost Plus Predefined Margin	10	10
Other - Fixed Price initially, then becomes Resource Utilization	10	10

INPUT asked Power Computing to characterize the duration of its contracts. The results showed a dominance of mid-length projects; however, as might be expected, federal contracts are generally longer than commercial contracts.

	Commercial	Federal
• 1 to 2 years	10%	10%
• 3 to 5 years	80%	50%
• 6 to 8 years	10%	40%

Power Computing indicated that it has the capabilities identified in Exhibit PCC-3. Power Computing has established business partnerships with IBM, Texas Instruments, Apple Computer, and Novell for outsourcing services. However, it has teamed with other companies in all of the areas identified in Exhibit PCC-3 for outside assistance in outsourcing contracts.

Power Computing has identified one proprietary technology that may give it an edge in bidding outsourcing contracts. Power Computing has developed a Quality Assurance Program that has been accepted by the Nuclear Regulatory Commission. Power Computing believes this quality assurance program to be the first of its kind. This should serve as a significant differentiator in bids relating to this vertical industry.

EXHIBIT PCC-3

Capabilities

Internal and Alliances	• RISC/6000 support and sales • IEF processing and consulting • Apple mainframe connectivity • Novell authorized gold reseller • Compaq reseller
Internal and Contract by Contract Alliance	• Business Consulting • Computer Systems Operations • Network Management • Applications Design/Development • Applications Maintenance • Packaged Applications Software • Disaster Recovery Service • Equipment Maintenance • Local-Area Networks

4. Markets Served

Currently, Power Computing derives its outsourcing business from both the commercial market and the federal government. Its systems operations division currently serves approximately 15 commercial customers and five federal government clients. Power Computing does not focus on any particular vertical market. Rather, it identifies new target markets based on the size of the business. Power Computing provides processing services to many utilities operating nuclear power plants. In the past, it has focused on platform outsourcing business, especially those involving IBM, DEC, Cray, and Cyber-based computing services.

5. Competitive Position

The company has been providing outsourcing support for 30 years in the commercial and federal markets. As Power Computing expands its outsourcing business, it expects its primary competition to come from the large and established firms, including EDS, IBM, Litton Computer Services, CSC, Systemhouse, and Genix.

6. Recent Events

- August 1992—Power Computing signed a multimillion-dollar outsourcing agreement with Cincinnati Milacron, a world leader in advanced manufacturing technologies for the metalworking and plastics-processing industries. As part of the long-term agreement, Power Computing will assume general data processing responsibilities for all of the business units that comprise Cincinnati Milacron.

- February 1992—Power Computing signed one of the largest outsourcing contracts of Cray supercomputing processing with Oryx Energy Company. Oryx is the world's largest independent oil and gas supplier.

- July 1991—Power Computing signed a multimillion-dollar outsourcing contract with Apache Corporation, the fourth largest independent oil and gas producer in the nation. Power Computing will provide IBM mainframe computer services for Apache.

- June 1991—Power Computing was chosen by Apple Computer to provide demonstration data processing services for selected Apple market centers, training facilities, and field sales office nationwide. The agreement is part of the expansion and enhancement of Apple's Connectivity Demonstration and Support Network (CDSN), a demonstration and training system that was first introduced four years ago.

- January 1991—Power Computing signed a $12 million outsourcing agreement with Dallas-based EPIC Healthcare Group. EPIC outsources to Power Computing its corporate IBM mainframe processing, which includes accounting, payroll, human resources, and health care information systems applications.

7. Organization

As previously indicated, outsourcing services fall under the purview of Power Computing Company, which is a subsidiary of McDermott International, Inc. McDermott, active in drilling equipment manufacturing, power generation facilities operation, and marine construction, derived $3.6 billion in revenues from these activities during 1991.

Power Computing has a large, diverse staff dedicated to outsourcing activities. The bulk of this staff is engaged in five areas with two others representing smaller portions:

- Systems and network operations: 41%
- User support: 16%
- Network design and development: 14%
- General management and administration: 12%

- Applications design and development: 9%
- Sales: 4%
- Project management: 4%

Power Computing is moving to expand its core outsourcing business into other professional services. The company launched a professional services division that offers systems integration data base, software development and software quality assurance services.

8. Outsourcing Alliances

As was shown in Exhibit PCC-3, Power Computing has made good use of alliances to strengthen its outsourcing services. Its association with Novell, Compaq, Apple, and IBM's RISC/6000 systems indicates a trend within the company to support a wide range of workstation platforms as well as client/server environments.

9. Outsourcing Marketing Strategy

Power Computing plans to expand within its existing client base as well as enter into new markets. With more than 15 outsourcing customers and 450 processing services customers, Power Computing has opportunities for expansion within its client base. However, Power Computing estimates that, in terms of revenues, 80% of its commercial business comes from new clients, with the balance coming from its existing commercial client base.

In terms of business revenues from federal clients, Power Computing derives only 20% from new accounts, with the balance coming from its existing federal client base.

Within the outsourcing subset, Power Computing expects to obtain new contracts through the following means:

	Commercial	Federal
• Responding to bid solicitations	10%	10%
• New contracts with existing clients	10%	80%
• Proactive direct sales activity	80%	10%

10. Outsourcing Customer Base

As previously stated, Power Computing's outsourcing business comes from the commercial and federal markets. Its outsourcing clients include the following:

- Cincinnati Milacron
- Apache Corporation
- EPIC Healthcare

- Oryx Energy Company
- Apple Computer

11. Summary and Future Directions

In responding to INPUT's survey, Power Computing estimated that the commercial outsourcing industry is growing 20% each year, with decreasing margins. Power Computing further estimated that federal work is growing at only 10% each year, also with decreasing margins.

As Power Computing continues to grow its outsourcing business, it will likely encounter a wide range of competitors, each offering its own special differentiator. Power Computing should succeed by partially tying its systems integration and software services to its strong outsourcing capabilities.

Power Computing focuses its activities in the energy-related fields of process manufacturing and utilities, and the oil and gas, manufacturing, and health care industries. Power Computing has a complete range of computers—from minicomputers to supercomputers—that is particularly appropriate for these industries. And the company supports workstation platforms as well as client/server environments.

To the extent that Power Computing can leverage these advantages to its outsourcing business, it will be able to increase both its revenues and its overall market penetration.

COMPANY PROFILE

SAIC

1. Key Systems Operations Contacts

The systems operations organization in SAIC reports to J. Robert Beyster, CEO and Lorenz A. Kull, President. SAIC is located at:

10260 Campus Point Drive
San Diego, California

2. Description of Principal Business

SAIC provides the federal government with a variety of systems integration and system operations services as well as professional services and high technology products in the areas of national security, environment, health and energy. Advanced technology products and services are also sold to commercial clients.

SAIC is one of the country's largest employee-owned companies. A $1 billion company, it has more than 11,000 employees in 200 offices worldwide. SAIC also has one of the most highly educated staffs in the industry. Fifty-three percent hold bachelor's of science or arts degrees; thirty-three percent hold master's degrees, and fourteen percent hold doctorate degrees.

3. Systems Operations Service Characteristics and Capabilities

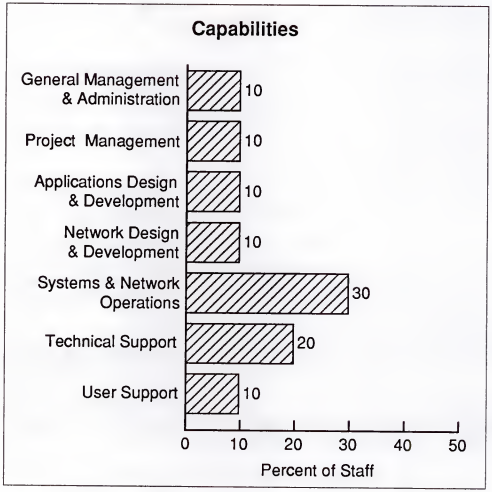
All of the systems operations activities that SAIC performs are done on client premises in which the hardware is owned by the client. In all cases, the equipment is dedicated to the needs of that client. SAIC operates 20 data centers for the federal government in this manner.

Most of the applications software at these centers was developed by SAIC for the client agency. Generally the contracts are of greater than five years' duration and are mostly fixed-price contracts.

The company has the internal capabilities to provide all services to clients, but often teams with other companies in all areas but business consulting and computer operations to supplement the capabilities needed on a given contract. The distribution of SAIC's systems operations capabilities is shown in Exhibit SAIC-1.

SAIC has a particular niche in the area of hospital information systems, based on major contracts with the Department of Veterans Affairs and the Department of Defense. SAIC has won the DoD CHCS and Virginia IHC contracts, and acquired Di-Star Medical Systems Corporation.

SAIC-1



4. Markets Served

SAIC provides systems operations services only to the federal government and has no commercial clients. All of its services are provided to three federal government agencies (DARPA, Veterans Administration and DoD Health Affairs), for which it runs a total of 20 data centers.

5. Competitive Position

The company has been in the systems operations business for the past 10 years. All of its clients have been federal government agencies.

Its estimated 1988 revenue for systems operations was $15 million; SAIC expects 1989 fiscal year revenues to be $35 million. Management considers its principal competition in the federal marketplace to be EDS, Unisys, and the PRC subsidiary of Black and Decker.

6. Recent Events

In March 1989, SAIC won a contract with the Department of Defense to design and implement the medical information system for more than 700 military hospitals and clinics worldwide. The installations will stretch over an 8-year period. The system, now known as CHCS (Composite Health Care System) has been demonstrated in a hospital at Ft. Knox, KY.

In June 1989, SAIC won the contract to provide a new private data network to the Department of Veterans Affairs. The project, valued at $84 million over ten years, is called the Integrated Data Communications Utility (IDCU). SAIC will provide project management, systems integration, and tailored software. Its subcontractor, U.S. Sprint, will provide the network technology, customer premises equipment, transmission manufacturing, and necessary field support. Initial installation is expected to be completed within two years.

In September 1989, SAIC hired Gordon E. Myers to serve as a senior vice president supporting systems integration and software development. Mr. Myers joined SAIC after a distinguished 20-year career at IBM. Most of Mr. Myers' experience has been in the federal area, although in his last position he managed the Commercial Solutions Development (CSD) organization of IBM's Systems Integration Division.

In October 1989, SAIC acquired Di-Star Medical Systems Corporation, its principal subcontractor on CHCS. It had previously acquired the Software Products Division of Control Data Corporation. Using these two groups as well as other internal resources, SAIC developed its own product line for medical information systems, named "SAIC-Care."

In September 1990, SAIC won a $31 million contract with the Department of Energy (DOE) to provide ADP support services for DOE's Albuquerque data center. Under this five-year contract, SAIC will operate the data center and provide system and application programming and other ADP support services.

7. Organization

Systems operations activities are conducted within several of the operating divisions of SAIC. The organization chart in Exhibit SAIC-2 illustrates those organizations that conduct systems operations activities. SAIC serves its clients through a matrix organization, drawing resources from throughout the company.

There are approximately 150 people in the SAIC organization who are considered full-time systems operations staff.

Organization Chart

8. Systems Operations Alliances

Though SAIC does not have any formal alliance programs in its SO operations, teaming arrangements are used to provide additional capabilities in the areas of marketing, services and specific product areas that supplement SAIC's capabilities.

9. Systems Operations Marketing Strategy

SAIC management plans to increase its existing business by expanding in its current market sector rather than seeking new markets to enter. The decision on which contracts to pursue is based on return on investment criteria, after the risk factors have been evaluated and judged to be manageable. SAIC concentrates its marketing efforts on agencies in which its staff has more functional expertise. This enhances its win ratio substantially.

All of SAIC's new business is a result of responding to bid solicitations or RFPs solicited by the government agencies. SAIC generally gains SO opportunities as an outgrowth of systems integration contracts it has won. Management expects that pattern to continue.

10. Systems Operations Customer Base

As mentioned above, SAIC's customer base currently consists primarily of the CHCS medical centers it operates for the Department of Defense, a DARPA seismic center it operates for worldwide seismic monitoring, the nationwide packet-switching and network control facility for the Veterans Administration, and the Department of Energy data center in Albuquerque.

11. Summary and Future Directions

SAIC has successfully leveraged its professional services experience in the federal government arena to win bids on a number of system integration contracts that have then resulted in systems operations contracts.

SAIC expects to continue expansion of systems operations by focusing on federal agencies where it has demonstrated functional expertise.

INPUT expects the greatest change to occur in SAIC's commercial SO activities. Although SAIC has established a commercial presence through various specialized products and services, it is just now beginning to pursue commercial SO. SAIC will likely succeed in this market also. INPUT expects that, within three to five years, SAIC will be a much more important participant in the commercial SO market.

COMPANY PROFILE

SHL Systemhouse, Inc.

Corporate Headquarters:

SHL Systemhouse, Inc.
50 O'Connor Street
Suite 501
Ottawa, Ontario K1P-6L2
613-236-1428
613-238-4029 (Fax)

Key Outsourcing Contact: Dennis B. Maloney
Title: Corporate Executive Vice-President, Computing & Network Services

SHL Systemhouse, Inc.
55 York Street
7th Floor
Toronto, Ontario, Canada M5J 1R7
416-366-4600
416-366-3370 (Fax)

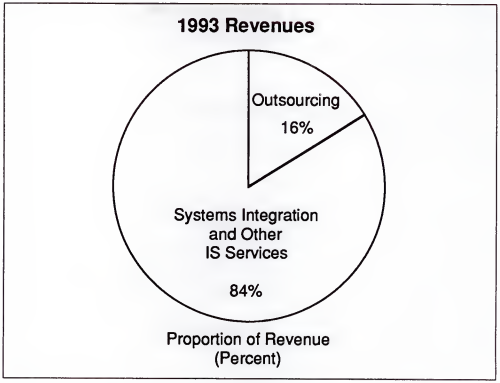
Status: Public
Employees: 4,800 (Estimate 1993)
Total Revenue: $925 million (Estimate 1993)*
Information Services Revenue: $925 million (Estimate 1993)*
FYE: 8/31

*All revenue figures are represented in Canadian dollars, unless otherwise noted.

1. Key Points

- SHL Systemhouse (SHL) delivers expertise in client/server technology and provides transformational outsourcing services.
- The company's transformational outsourcing focus is primarily responsible for growth of outsourcing revenues from 5% in 1992 to approximately 16% (estimate) in 1993 (see Exhibit SHL-1).

EXHIBIT SHL-1



- During fiscal 1992, the operations of SHL in Canada and its ComputerLand Canada subsidiary were more closely aligned to exploit their complementary strengths in full-service outsourcing with the launch of its Desktop Systems Management Service offering.

- The company's overall global success is based on the growing U.S. commercial and Latin American markets. SHL has also been expanding its skills and customer base by an aggressive program of acquisitions in the U.S., Canada, and the U.K.

2. Company Description

SHL Systemhouse (SHL) was incorporated in Canada in July 1974, and has been in the outsourcing business for eight years. According to SHL, the company is "one of the largest systems integrators and outsourcing organizations in the world." It "is a leader in transforming business processes through client/server computing. With particular expertise in network-intensive applications employing workstation technologies, the company has an unparalleled reputation for delivering cost-effective, time-compressed solutions." The company placed less emphasis in 1992 on mainframe services and more on client/server and transformational outsourcing. SHL defines transformational services as services that assist its clients to move information technology systems toward a client/server architecture.

SHL does not focus on developing or delivering standalone software products or professional services. It is committed to delivering fully integrated and/or operational solutions.

The company's strong client/server and microcomputer integration capability was added by the acquisition of ComputerLand Canada in July 1988 and ComputerGroup plc, a U.K.-based ComputerLand franchise in August 1989.

Offices and operations are located in Canada, U.K./Europe, Mexico, Latin America, Asia, and the U.S.

3. Market Financials

According to SHL, 5% of its 1992 overall revenue was derived from systems operations/outsourcing contracts. Estimates for 1993 place outsourcing revenues at approximately $150 million, or 16% of total revenue. SHL expects the proportion of its outsourcing revenue to steadily grow as the company strives to change the complexion of its business by promoting transformational outsourcing contracts. According to SHL, approximately 80% of its contract revenue backlog for 1993 is from outsourcing contracts.

The company does not track its revenue by industry market, but estimates the majority of its revenue comes from the commercial sector.

Outsourcing revenue sources, broken out by the range of services provided to clients, is shown in Exhibit SHL-2. At present, platform operations outsourcing contracts account for 50% of the company's outsourcing revenue. Revenue from desktop services contracts is expected to increase as SHL intensifies its marketing efforts of client/server technical expertise and de-emphasizes mainframe capabilities.

EXHIBIT SHL-2

Distribution of Outsourcing Revenue

Outsourcing Type	Proportion of Revenue (Percent)
Platform Operations	50
Network Management	10
Desktop Services	30
Applications Development*	N/A
Applications Maintenance	10

*Is included with systems integration revenues

Officially, SHL targets all vertical markets for outsourcing contracts, although the U.S. federal market segment is not a strategic focus of the company. SHL intends to continue with its current relationships, and expand them where it makes sense. Federal revenues are expected to decrease over time, but as a decreasing percentage of total business. SHL will continue to focus on the commercial market, particularly in the U.S. (see Exhibit SHL-3).

EXHIBIT SHL-3

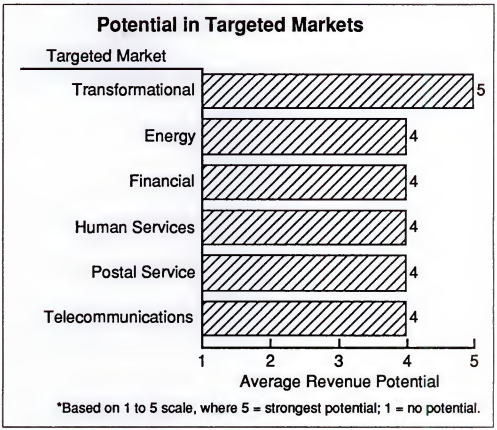
U.S. Federal Government Revenue

Fiscal Year	Revenue ($ Millions)
1990	33.3
1991	36.8
1992	42.4

SHL has identified some industries and companies with a particular need as being more profitable than others, and has rated these as key targets for its marketing efforts. Exhibit SHL-4 shows that companies that need transformational or rightsizing outsourcing services, and companies in five specific industries, are the strongest markets for SHL's outsourcing services. The targeted industries are also known as Strategic Market Units (SMUs) within the company.

SHL intends to expand its current markets based on an evaluation of the full range of services that can be offered to potential customers.

EXHIBIT SHL-4



Officially, SHL also includes three other markets in its eight Strategic Market Units: public safety, insurance and, logistics organizations. (focusing on retailing, manufacturing, and consumer products)

Canadian customers come from a range of industrial, commercial, and government sectors, including financial services, resources, utilities, wholesale/retail, transportation, manufacturing, communications, and municipal, provincial, and federal governments.

U.S. customers include telecommunications manufacturers and services providers, transportation, retail, financial services organizations, and state and local governments.

European clients include United Nations agencies, governments, and commercial organizations.

SHL has a very aggressive sales organization. Half of its new outsourcing clients are generated from proactive direct sales efforts, as shown in Exhibit SHL-5. Other contracts are generated from responding to solicited bids and new or follow-on contracts from existing clients. Considering

that SHL is also positioned as a systems integrator, it is not unusual for it to receive outsourcing contracts as follow-ons to systems integration projects.

EXHIBIT SHL-5

Source of Potential New Clients

Source	Proportion of Customers (Percent)
Responding to new bids/RFPs	25
New contracts with existing clients	25
Proactive direct sales	50

4. Geographic Markets

SHL operates in Canada, Asia, the U.S., Latin America, the U.K., and Europe. The company claims not to emphasize a vertical market orientation, but is well known for contracts in state and local governments and the wholesale and retail distribution markets in the U.S. and Canada. SHL will provide the design, implementation, and management of a client/server environment for the Mexican government through the 1990s.

Currently the U.S. Strategic Area Unit is divided into eight regions:

- Northeast (New York)
- Mid-Atlantic (Arlington, VA, Baltimore, and Raleigh, NC)
- Southeast (Orlando)
- West (Dallas, Houston)
- Midwest (Chicago)
- Pacific South (Los Angeles)
- Mid-Pacific (Sacramento, San Francisco)
- Pacific Northwest (supported by the Mid-Pacific region)

5. Operational Structure

SHL utilizes a decentralized organizational focus, with business units involved in all business functions and with centralized support in the areas of strategy, long-range planning, finance, legal, marketing, and promotion, contract review and approval, and hardware and software acquisition.

During 1992, within the company's transformational outsourcing framework, the company redirected its operations along three lines of business:

- Systems Integration and Consulting
- Technology Deployment
- Systems Operations and Outsourcing

SHL Systemhouse is geographically organized into three Strategic Area Units:

- Canada/Asia
- U.S./Latin America
- U.K./Europe

The Computing and Network Services organization works with the Strategic Area Units and its local offices to provide outsourcing services. Specific services include outsourcing services at the client site, network and communications management, and transformational outsourcing. The division also operates data centers in Halifax, Calgary, Los Angeles, Houston, and London.

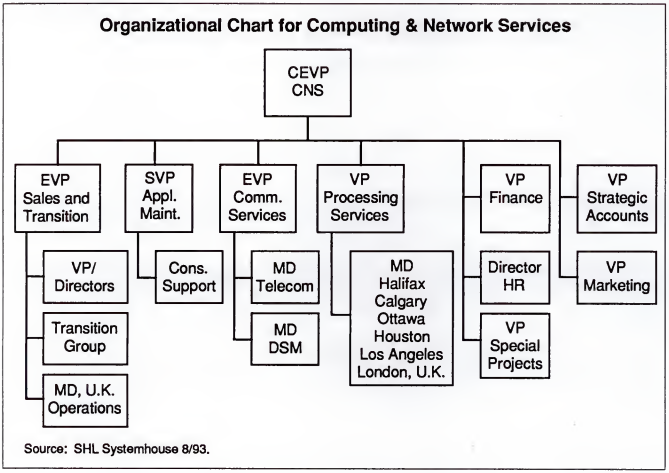
Strategic Technology Services (STS) ensures technical capabilities throughout the company. These two organizations support the Strategic Area Units. Strategic Market Services (SMS) provides sales and marketing support to SHL customers.

Each operational area within the Strategic Area Units operates as an individual profit center.

6. Organization Chart

Exhibit SHL-6 depicts the organizational chart for the Computing and Network Services Organization, responsible for the outsourcing services of SHL Systemhouse, Inc. The division reports to John Oltman, Chairman and CEO of SHL Systemhouse, Inc.

EXHIBIT SHL-6



Source: SHL Systemhouse 8/93.

7. Employees

Worldwide, the company employs over 4,500 professionals, and 1,250 individuals in the U.S., Canada, and Europe who promote and support outsourcing contracts. Eight hundred employees support U.S. operations.

8. Objectives/Mission/Strategy

The official focus of the company is "to deliver complete transformational outsourcing services to clients moving their information technology systems toward client/server architectures." SHL offers customers systems integration and consulting services, systems operations and outsourcing services, and technology deployment."

9. Acquisitions

Some of the numerous acquisitions made by SHL Systemhouse in 1992 and 1993 that enhance its systems operations capabilities include:

Application & Business Solutions (ABS), Inc., a provider of IBM AS/400 applications consulting, development and, outsourcing services, based in Cypress, California. (July 1993)

Toronto-based Nidak Associates Inc., a regional client/server and open systems computing firm. (July 1993)

A merger with Advanced Management Systems, C.A. (AMS) a Venezuelan client/server consulting firm and a leader in Latin America. (May 1993)

The acquisition of 100% of AST TransACT Ltd., a U.K.-based banking and financial services company. This acquisition firmly entrenches SHL as a systems operations/outsourcing vendor in the U.K. and Europe (May 1993).

Benson, Douglas & Associates, Inc. (BD&A) of Cary, NC (January 1993). The company emphasizes UNIX, client/server, open systems, and pen-based technologies. It has been merged into SHL's Arlington, VA office and will continue to serve clients from its offices in Cary, NC and Atlanta, GA.

Rockwood Informatics Corp. of New Brunswick (January 1993). The company specializes in government applications and gives SHL a project office in New Brunswick.

ABRAXAS International, Inc. of Orlando, FL, acquired in December 1992. It provides integrated business communications solutions for voice and data communications, network management and switching systems.

Lynx Graphics in Winnipeg, acquired in July 1992. It has expertise in fault-tolerant LANs and computer-aided dispatch systems for emergency services.

10. Alliances

The company's alliance with ComputerLand U.S.A. continues to grow stronger. In February 1993, SHL Systemhouse and ComputerLand announced an outsourcing relationship. SHL will perform all mainframe processing for ComputerLand while it makes the transition to a client/server environment in a cost-effective manner. This new contract enhances the growing business relationship between the two companies. In 1988, SHL acquired ComputerLand Canada from ComputerLand Corporation.

SHL did not identify specific outsourcing alliances with other vendors, except to state that alliances are used to assure the delivery of cost-effective products and services that are not part of SHL's core business.

The following alliances with the companies listed below may support either outsourcing or systems integration activities:

- ComputerLand Canada, an authorized dealer for IBM, Hewlett-Packard, Compaq, Apple, Sun, NEC, and Toshiba equipment, and software products from Lotus, Microsoft, and Borland, among others.
- Bachman Information Systems, for computer-aided software engineering products.
- Ameritech Information Systems, for technical and marketing support in the U.S. and outside Canada.
- Easel Corporation, for marketing and use of the EASEL Workbench product for client/server application development.
- Canada Post Systems Management Ltd., to jointly implement "track and trace" systems worldwide.
- Bell Mobility Cellular, to market Bell Mobile's LINK customer information and billing system.
- Samsung of Korea, to provide computer systems integration and outsourcing services in the Far East and North and South America.
- IBM, to distribute the IBM ImageSystem software in Canada to SHL clients.

11. Key Products And Services

SHL Systemhouse identified outsourcing capabilities that are provided to customers by internal staff or through alliances with other vendors. The capabilities are delineated in Exhibit SHL-7.

EXHIBIT SHL-7

Capabilities

Internal Only	Business management consulting Business process re-engineering Computer systems operations Network management Applications design/development Applications maintenance Installation services Equipment maintenance in Canada and the U.K.
Alliance Only	Packaged applications software Disaster recovery Equipment maintenance in the U.S.

12. Marketing and Sales

SHL does not foresee any changes in pricing strategies from those practiced in 1992 to those anticipated in 1994, as shown in Exhibit SHL-8. The majority of its outsourcing contracts are negotiated on a fixed-price basis. Ninety percent of its contracts involve SHL taking over the client's hardware and information systems staff.

EXHIBIT SHL-8

Distribution of Contract Pricing

Type of Pricing	Proportion of Contracts (Percent) 1992	1994
Fixed Price	70	70
Transaction Based	15	15
Resource Utilization Based	15	15

The company estimates approximately 50% of its outsourcing contracts average between four to six years, 25% are under three years, and the remaining 25% range from seven to nine years.

SHL currently has approximately 50 outsourcing contracts. The average contract value is $10 million.

13. Clients

Examples of some of SHL Systemhouse's recent outsourcing contracts include:

- A transformational outsourcing arrangement with Canada Post Corporation. The contract is expected to be finalized by September 1993. Current estimates of its value exceed $1 billion.
- A multiyear transformational outsourcing deal with ComputerLand Corp., whereby SHL will operate all of ComputerLand's mainframe processing and migrate it to a client/server environment. An agreement was signed in February 1993.
- A three-year transformational processing contract to manage the National Education Corporation's mainframe computer systems, and provide network and project management support for a transition to distributed processing.
- A supercomputer processing and network operations contract with High Performance Computing, (HPC) a Canadian consortium, announced in February 1993.
- An outsourcing contract for seven years for the Maritime Telegraph & Telephone Company.
- Provision of computer operations for the Government of Nova Scotia.
- A five-year contract with Amoco Canada Petroleum Ltd., with potential value of $90 million, for all mainframe processing and data, voice and radio network operations.
- A recent contract with the Mexican government to provide direct design, implementation and management of a client/server environment for its revenue collection process. Estimated value is $500 million.
- A five-year contract with Browning-Ferris Industries (BFI) for applications development and support services.
- A contract for $270 million with the U.S. Postal Service to provide and operate a mail tracking system.

- Various outsourcing contracts with the States of Maryland and California.

- Contracts with Fluor Daniel ($30 million) and IBAX Healthcare Solutions ($40 million).

14. Competitors

SHL names EDS, IBM's ISSC, Litton Computer Services, and ISM Information Systems Management Canada as its major outsourcing competitors. Competition from ISM is limited to Canada for the desktop services outsourcing market. EDS is considered strong competition for both outsourcing and systems integration contracts.

15. INPUT Assessment

SHL has strategically placed itself in the role of an expert providing transformational outsourcing services. This position allows SHL to take advantage of the new trends in computing for the remainder of the decade. Computing platforms are moving from mainframe to distributed client/server architectures.

INPUT estimates by 1997, 75% of U.S. computing platforms will be client/server. Most organizations need help developing and managing their downsized applications. They are ill-equipped to handle the diverse new and complex environment, and are not committed to devoting the necessary resources to support it. SHL will certainly benefit from this shift, both in managing the legacy systems being transformed and subsequently managing the new, more complex client/server environments.

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COMPANY PROFILE

STM Systems Corp.

1. Key Systems Operations Contacts

The systems operations activities at STM Systems Corp. are under the direction of two vice presidents. The commercial systems operations business is under the direction of:

Amnon Zoher
Vice President, Central Region
650 McNichol Avenue
Willowdale, Ontario M2H 2E1
Canada

The federal systems operations activities are under the direction of:

Jim Over
Vice President, Federal Region
2220 Walkley Road
Ottawa, Ontario K1G 5L2
Canada

2. Description of Principal Business

STM Systems Corp. is a Canadian company that provides a range of information services worldwide to private and public sector clients. STM Systems Corp. is a wholly owned subsidiary of International Semi-Tech Microelectronics Inc. (ISTM) headquartered in Markham, Ontario. STM Systems Corp., with systems operations its major line of business, was formed by ISTM in late 1988.

3. Systems Operations Service Characteristics and Capabilities

Exhibit STM-1 presents how STM Systems Corp. views the change that will occur in its market over the next few years. All of the numbers represent a percentage of total revenue derived from systems operations activities. The first chart pairing indicates that there will be moderate change in the next few years in the percentage of equipment that is client owned. STM will realize a reduction in the percentage of revenues from its company-owned equipment contracts.

The second pairing shows a slight difference in equipment locations over the next few years. It suggests that STM will continue to maintain a significant percentage of equipment at its own facilities, while realizing a slight increase in revenues from equipment at the client site. This is very consistent with other vendors that responded to INPUT's survey.

STM-1

Market Characteristics

		1989 (Percent)	1992 (Percent)
Commercial			
Equipment Ownership Percent of Revenue	STM	97	85
	Client	3	15
Equipment Location Percent of Revenue	STM	98	90
	Client	2	10
Processing Percent of Revenue	Shared	68	50
	Dedicated	32	50
Applications Software Developed by	STM	15	30
	Client	81	60
	Third Party	4	10
Federal			
Equipment Ownership Percent of Revenue	STM	70	65
	Client	30	35
Equipment Location Percent of Revenue	STM	75	30
	Client	25	70
Processing Percent of Revenue	Shared	16	20
	Dedicated	84	80
Applications Software Developed by	STM	10	40
	Client	60	20
	Third Party	30	40

The third pairing in Exhibit STM-1 shows a slight change in STM's single-client/multiple-client ratio. This suggests that as STM converts ownership of vendor equipment, it will begin dedicating equipment to the client.

The three pairings of boxes, taken together, suggest some moderate changes in the way STM will conduct its systems operations business. Since it currently supports over 20 data centers, INPUT believes STM's operations will continue to be stable, even as the business grows.

The fourth pairing shows that while most applications software currently in use is developed by the client, this percentage will decline over the next few years, in both the commercial and federal sectors. As STM expands its systems operations business, software developed by the company will be used more often. Further, STM has determined that it can realize an increase in revenues when applications software is developed by a third-party vendor.

Exhibit STM-2 compares the distribution of systems operations contracts under various pricing alternatives. Unlike most other vendors INPUT has profiled, STM Systems Corp. currently has contracts with a combination of pricing approaches.

INPUT asked STM Systems Corp. to characterize the duration of its contracts. STM's systems contracts are of various lengths. Commercial and federal systems operations contracts have durations in the ranges listed below.

	Commercial	Federal
• 1 to 2 years	29%	15%
• 3 to 4 years	37%	40%
• 5 to 8 years	33%	45%
• Over 8 years	1%	-

Exhibit STM-3 compares systems operations capabilities derived from internal sources versus those derived from alliances. The data suggests that STM has made significant use of teaming in its systems operations activities.

4. Markets Served

STM Systems Corp. derives its systems operations business from both the commercial market and the federal government. The company currently serves approximately 123 commercial customers and 35 federal (Canadian) government clients. The company realizes contracts with annual revenues averaging $1.25 million in federal business, and $900,000 in the commercial sector. STM Systems Corp. has chosen to focus on several vertical markets, including:

STM-2

Distribution of Revenue

Contract Type	Commercial 1989 (Percent)	Commercial 1992 (Percent)	Federal 1989 (Percent)	Federal 1992 (Percent)
Fixed Price	7	20	84	82
Transaction Volume	5	10	—	—
Resource Utilization	73	50	16	18
Cost Plus Predefined Margin	4	20	—	—
Combinations				
Transaction/Resource	7			
Fixed/Resource	2			
Trans/Fixed/Resource	2			

STM-3

Capabilities

Internal and Alliances	• Applications Design/Development • Applications Maintenance • Packaged Applications Software • Other: Microcomputers
Internal Only	• Disaster Recovery Service • Network Management
Alliance Only	• Business Consulting • Equipment Maintenance

- Financial firms
- Health services
- Provincial government

5. Competitive Position

STM Systems Corp. has been providing systems operations services on a contractual basis for nearly 13 years. During this time, it has built a strong client base in both the commercial and federal marketplaces. With more than 155 systems operations clients, 1989 annual revenues were $110 million from commercial business. In federal business, 1989 annual revenues exceeded $43 million.

When considering competitors, STM Systems Corp. listed, by sector, the following firms:

Commercial
- EDS Canada
- IBM
- Andersen Consulting
- Le Group CGI

Federal
- IST Computer Services Company
- EDS Canada
- IBM

6. Recent Events

- November 1990 - Bell Canada renewed a contract with STM Systems Corp. for management information services in support of several of its systems, including systems for tracking inventory and operations measurement. The contract is worth $2.6 million over three years.

- October 1990 - STM Systems Corp. was awarded a contract by the Personal Insurance Company of Canada for computer processing services, disaster recovery services, and cross-Canada data communication. The three-year contract is worth $2.4 million.

- October 1990 - STM Systems Corp. acquired AIC Computers, Inc., exclusive distributors in Canada of Apricot high-performance microcomputers. The acquisition of the Canadian distributor of Apricot is part of STM's strategy to offer total solutions to clients through an extensive array of information products and services.

- August 1990 - STM Systems Corp. signed final closing documents for the acquisition of shares of Manitoba Data Services (MDS) from the Government of Manitoba in a deal estimated to be in excess of $150 million. In addition to the purchase of the shares, STM will establish a

company called STM Investments (Manitoba) Ltd., to invest in small Manitoba information technology companies.

- June 1990 - STM SunGard Recovery Services, a division of STM Systems Corp., acquired the IBM mainframe computer "hot site" disaster recovery business of Bekeen Computer Corporation. A hot site is a fully equipped computer center providing backup services in the event of a disaster to a client's own computer systems.

- March 1990 - STM Systems Corp. helped the federal government in making the biggest and most complex migration of computer systems ever attempted in Canada. Thirteen mainframes and six minicomputers for more than twenty government departments were moved to a new systems integration center built by STM Systems Corp. Six hundred Ottawa-based employees of STM Systems Corp. are located at the new $12 million center.

- January 1990 - STM Systems Corp. was awarded an $11.1 million contract to provide systems integration services to Finance Canada. STM will create an integrated office computer system linking approximately 700 professionals and support staff in the Finance Canada department. The contract award strengthens the position of STM as the largest supplier of information technology services to the federal government.

7. Organization

STM Systems Corp. currently has approximately 700 employees engaged in systems operations activities. Sixty-five percent of the staff is involved in commercial systems operations activities, and the balance in federal business. STM Systems Corp. serves corporate and government clients through its two regions, as indicated in Section 1.

The following table identifies the percent of STM staff associated with each of the key categories required by systems operations firms:

Capability	Percent
General management and administration	9
Project management	3
Applications design and development	16
Network design and development	2
Systems and network operations	24
Technical support	13
User Support	11
Sales	7
Other: Data entry, clerical, secretarial	15

8. Systems Operations Alliances

STM has established alliances with outside firms to supplement the company's capabilities with industry-specific knowledge. In the past, alliances have been used to support STM during periods of heavy workload. STM identified D&B Software as the company with which it has established an alliance for payroll and personnel software. STM has teamed with other companies for systems operations activities.

9. Systems Operations Marketing Strategy

STM Systems Corp. plans to expand within its existing client base as well as enter into new markets. When considering new target markets, STM identified the following selection criteria:

- Company size and growth rate
- Need for STM services
- Profit potential
- Competition in the market

With more than 155 clients, STM has significant opportunities for expansion within its client base. In fact, STM estimates that, in terms of revenues, 95% of its commercial business will come from existing clients, with the balance coming from new commercial accounts. Similarly, STM estimates that 90% of its federal business will be derived from existing clients, with the balance coming from new federal accounts. This is typical of most firms with a large client base.

In terms of new business, STM expects to receive the bulk of new commercial contracts from existing clients. However, the bulk of new federal contracts are expected from responses to bid solicitations. STM expects to obtain new contracts through the following means:

	Commercial	Federal
• Response to bid solicitation	12%	80%
• New contracts with existing clients	75%	15%
• Proactive direct sales activities	13%	5%

STM believes its competitive edge to be its ability to provide clients with total solutions for better management of their information needs. These solutions include facilities management, systems integration, and application software products. Additionally, the disaster recovery services offered by STM should offer a strong competitive edge.

10. Systems Operations Customer Base

As previously stated, STM's systems operations business comes from the commercial and federal markets. Among its clients are:

- G.E. Canada Limited - STM provides facilities management, project management, systems and network operations, and technical support.
- Province of Ontario Savings Office - STM provides STM's on-line banking system, project management, application design and development, network and systems operations, and technical support.
- Ministry of Housing - Demand processing for production processing, facilities management, network management, and technical support.

11. Summary and Future Directions

In responding to INPUT's survey, STM estimated that the commercial systems operations business is growing 10% each year, with decreasing margins. STM further estimated that federal business is growing at only 5% each year, also with decreasing margins.

STM Systems Corp. is Canada's largest supplier of IBM-based processing services. The company manages data centers in Ottawa, Calgary, Winnipeg, Toronto, and Mississauga. STM Systems Corp. will provide the STM-SunGard disaster recovery service for IBM, DEC, Tandem, and Stratus installations.

STM currently manages mainframe and minicomputer facilities, both on- and off-site, for more than 20 major federal (Canadian) government installations, a steel company, a large retail chain, and a leading financial institution, using a variety of hardware environments including IBM, Amdahl and Tandem.

To the extent that STM can leverage these advantages in its future systems operations business, it will be able to increase both its revenues and its overall market penetration.

COMPANY PROFILE

Systematics, Inc.

1. Key Systems Operations Contacts

The systems operations activities of Systematics Incorporated are under the direction of Collins Andrews, President of Operations for the company. He reports directly to Mr. John E. Steuri, Chairman and CEO of Systematics.

The executive offices of the company are located at:

4001 Rodney Parham Road
Little Rock, Arkansas 72212

2. Description of Principal Business

Systems operations service is the major line of business of the corporation. It operates as a subsidiary of Alltel Corporation, a provider of communications systems.

Systematics' products and services are designed exclusively for the financial industry (banks, savings institutions, credit unions, and mortgage service companies).

3. SO Service Characteristics and Capabilities

Exhibit SI-1 presents graphically how Systematics views the change in its market over the next few years. All of the numbers represent a percentage of total revenue derived from systems operations. The first chart pairing indicates that there are decreases expected in the next few years in the percentage of revenues generated from client-owned equipment. Systematics expects vendor-owned equipment contracts to become an even more significant portion of its overall systems operations activities.

The second pairing shows a parallel in percentages to the first for equipment location. This suggests that Systematics will continue to maintain equipment at client sites. However, as Systematics grows its systems operations business, it will purchase equipment for installation at vendor sites.

The third chart pairing shows no change in the mix of shared versus dedicated facilities. The three pairings, taken together, suggest some significant changes in the way Systematics will conduct its systems operations business.

EXHIBIT SI-1

Market Characteristics

	1989 (Percent)	1992 (Percent)
Equipment Ownership		
Client	10	5
Percentage of Revenue	90	95
Equipment Locations		
Client	80	70
Percentage of Revenue	20	30
Shared vs. Dedicated Processing		
Dedicated	80	80
Shared	20	20
Applications Software		
Developed by Systematics	80	90
Client	10	5
Third party	10	5

The fourth pairing in Exhibit SI-1 shows the expected changes in the software mix. Eighty percent of applications software is now developed by Systematics with the remainder coming from the client or a third-party arrangement. The ratio for Systematics-provided software is expected to rise to 90% by 1992.

Systematics currently operates 69 data centers, in which a majority of the equipment is owned by Systematics. In the case of most of these 69 centers, the company leases space from the client to locate its equipment close to the client's operation. In 3 of the 69 company-owned centers, services are provided for multiple clients in an FM utility arrangement.

Exhibit SI-2 presents a view of how the company's revenues are distributed. Almost 75% of the revenue is generated from fixed-price contracts. Most of these are five years or longer in duration.

Systematics has developed a complete set of integrated banking and financial applications software termed Systematics Integrated Financial Software. There are both multinational and domestic versions of the products available. These applications, available through facilities management/services contracts and separately as software products, include:

EXHIBIT SI-2

Distribution of Revenue

Contract Type	1989 (Percent)
Fixed Price	11
Transaction Volumes	9
Resource Utilization	7

- On-line delivery systems for all operating units from the back office to the ATM.

- Accounting systems for:
  - Demand deposits
  - Loans
  - Auxiliary operations
  - On-line collection systems

- Management systems for:
  - Financial management (FMS)
  - Asset/Liability management (ALMS)
  - Customer information (CIF)
  - Operating/Marketing information (SMS)

- Customer service management systems
  - Acquisition control systems
  - Profitability analysis systems
  - Tax reporting systems

- Transaction delivery systems
  - Teller systems
  - Branch automation systems

Systematics provides a full range of systems operation capabilities to its clients, as well as providing disaster recovery, education and training, and management consulting services. Occasionally Systematics supplements these capabilities with informal alliances, particularly in the areas of applications software, voice response systems, and equipment maintenance services.

The company has developed proprietary software for IBM systems which it provides as a part of the systems operations agreement to reduce the client's investment. It also has proven methods for data center management and project management that it applies to the conversion and consolidation requirements of its systems operations contracts.

- Facilities management contracts are generally marketed to larger banks, those with deposits ranging from $250 million to $10 billion or more.
  - The computer hardware and data center staff are located in or near the bank.
  - Such contracts usually have a term of five years and include a 99-year nonexclusive license for the client to use the software for internal processing.
  - The company provides facilities management processing services from 69 company-owned data centers.
- Three of the company's data centers are devoted to serving the 56 currently active remote services contracts.
- Remote services clients may elect to purchase a nonexclusive license to continue use of Systematics' software following the original term of the remote services contract.
- Because processing is done at remote locations that service several clients, it tends to be less customized.

4. Markets Served

Systematics has concentrated its marketing efforts in the financial sector. Within the financial sector, all its 948 clients are in the banking and financial area, with service provided to commercial banks, savings and loan institutions, credit unions, and mortgage and finance companies.

- The majority of revenue is derived from commercial banks with deposits over $250 million.
  - Systematics began marketing its services internationally in 1987 and derived approximately 5% of its fiscal 1989 revenue from customers located in Europe, Asia, the Pacific, South America and Canada. Systematics has clients in 17 non-U.S. countries and regional offices in the U.K. and Singapore, handling sales and support in those areas.

- In 1990 Systematics acquired Horizon Financial Software Corporation of Orlando, Florida. The Horizon system is widely regarded as the most functionally complete and fully integrated turnkey financial software available for the AS/400.

5. Competitive Position

The company has been providing systems operations services to the banking and financial community for 22 years. Revenues for calendar year 1990 were $255 million, with operating income of $34 million.

6. Recent Events

On November 30, 1990 Systematics announced that it had signed a letter of intent to acquire C-TEC Corporation's cellular telephone billing and information system. In addition, C-TEC will enter into a long-term outsourcing arrangement calling for Systematics to provide virtually all data processing services for C-TEC's telephone, cable television and cellular operations. Under terms of the agreement, Systematics will pay C-TEC for the rights to its Virtuoso (TM) software, as well as a royalty on new licensing fees during a specified period.

On October 25, 1990 Systematics acquired Computer Dynamics, Inc. (CDI) of Little Rock, Arkansas. CDI operates a mortgage data processing center and provides the application software to process more than 200,000 loans for 16 financial institutions in six states. The acquisition will allow Systematics to further leverage its loan processing capabilities and will create new growth opportunities. Systematics' software currently processes 2.7 million real estate loans on behalf of financial institutions nationwide.

On May 31, 1990, Systematics merged with Alltel Corporation, a communication company based in Hudson, Ohio, which services 1.1 million customers in 25 states. The prior major stockholder of Systematics, Stephens Group, Inc., agreed to the merger. The new agreement strengthens both organizations, both of which are strong financial performers. Under the new arrangement, Systematics gains access to the capital it needs to acquire third-party processing vendors. Alltel, with the merger, expands its activities into the information processing services business, an area in which it can offer complementary communication skills and services.

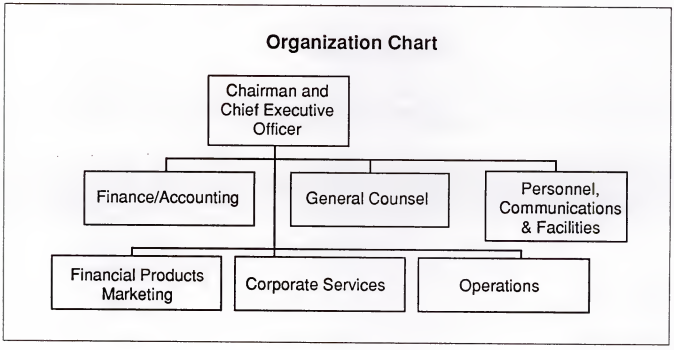
In 1989, Systematics acquired a data processing consulting business in Milwaukee from Banc One Wisconsin, a subsidiary of Banc One Corporation of Columbus, Ohio.

7. Organization

Systematics serves the banking and financial community across the United States. Its organizational structure is presented in Exhibit SI-3.

Five divisions, each headed by an executive vice president, are responsible for systems operations activities in their respective geographic areas. Each is self-contained and has the resources to fully meet client needs, but can supplement its staff with members of the Consulting

EXHIBIT SI-3



Services group for functional expertise, a specialized contract programming group for added client customization, and Systematics' own Training Division for client-specific training activities. Technical services can be called upon to provide customer support when Systematics' own software is involved.

8. SO Alliances

Though Systematics has no formal alliance program with other vendors to provide niche capabilities, it does enter into partnerships with other firms to provide additional capabilities such as equipment maintenance. It also will acquire and install third-party software for clients as the need occurs.

9. SO Marketing Strategy

The company's strategy is to expand in its chosen market, the banking and financial community, rather than seek markets in other business sectors. Systematics' management considers two criteria in its expansion plans:

- Whether Systematics can add value to the application area
- Whether the profit margins are acceptable

Systematics currently derives approximately 85% of its revenue from its existing customer base and 15% from new accounts. Most of its new contracts are garnered through direct sales activity in the marketplace; only 20% of its contracts result from responses to bid solicitations from prospective clients.

Systematics is a company that provides the complete solution to a client's banking and financial information processing needs with its state-of-the-art comprehensive software. It provides a company with a broad range of experienced resources. All of this is available from a stable, conservatively-managed company that has 22 years of experience in the operations and management of processing centers for the financial and banking community.

10. SO Customer Base

Approximately 948 banks and financial institutions are currently served by Systematics. Typical customers are:

- Republic National Bank of New York
- The Integra Corporation of Pittsburgh
- Mitsui Manufacturers Bank in Los Angeles
- Gainer Bank in Merrivale, Indiana
- Peoples' Heritage Bank in Portland, Maine
- City National Bank in California

11. Summary and Future Directions

Systematics has concentrated its efforts in the banking and financial sector, providing a broad-based product to institutions of all sizes. Over the past five years, its growth rate has been greater than 15% and it expects to continue growing at that rate in its selected market segment. Its growth strategy includes the acquisition of third-party processing in its market sector, a strategy that will be more achievable since its merger with Alltel, which provided it with the necessary capital to expand by acquisition. It presents itself to prospects as a conservative, well-managed company with more than 20 years' experience—a model that would generally appeal to decision makers in the banking and finance industry.

COMPANY PROFILE

Systems & Computer Technology

1. Key Systems Operations Contacts

The systems operations activities at Systems & Computer Technology (SCT) are under the direction of Michael J. Emmi, Chairman and Chief Executive Officer. The executive offices of the company are located at:

Great Valley Corporate Center
4 Country View Road
Malvern, PA 19355

2. Description of Principal Businesses

SCT has been in the systems operations business for 23 years. Systems operations is its principal business. In 1991, $65.4 million in annual revenue was derived from information services activities.

SCT provides systems operations, systems integration, and professional services, including custom software development and telecommunications consulting. These services are provided to state and local government agencies, educational institutions, and public/private utilities.

SCT is currently organized into five business units as follows:

- The Information Resource Management (IRM) division provides systems operations services, including management and staffing operations for the information resources (computing, office automation, telecommunications) of educational institutions and state and local governments. This division also includes SCT's customer software development and technical consulting services.

- The Software and Technology Services division incorporates SCT's packaged applications software products and telecommunications consulting services for education and government.

- Moore Government Systems, Inc. is a subsidiary acquired in 1990 that is headquartered in Baton Rouge, LA. The new business unit markets an integrated financial management system, which includes a utility billing system. The package is sold to local governments (cities and counties), and to public and private utilities.

- Digital Systems Inc., SCT's second new business unit, is one of two subsidiaries acquired in 1991, and operates through Moore Government Systems, Inc. The firm provides billing and customer service systems to utility companies and electric cooperatives.

- Mentor Information Systems Inc., the other subsidiary acquired in 1991, is SCT's third new business unit. It markets financial and administrative software, including a utility billing system to local government and to public and private utilities.

3. Systems Operations Service Characteristics and Capabilities

Exhibit SCT-1 presents graphically how SCT views the change in its market over the next few years. All of the numbers represent a percentage of total revenue derived from systems operations. The first chart pairing indicates that there is significant change expected in the next few years in the percentage of revenues generated from client-owned equipment. SCT expects vendor-owned equipment contracts to become a more significant portion of its overall systems operations activities. However, the majority of activity will continue to come from client-owned equipment.

The second pairing shows a parallel in percentages to the first for equipment location. This suggests that SCT will continue to maintain equipment at client sites. However, as SCT develops its systems operations business, it will purchase equipment for installation at vendor sites.

EXHIBIT SCT-1

Market Characteristics

		1991 (Percent)	1994 (Percent)
Equipment Ownership Percent of Revenue	SCT	95	75
	Client	5	25
Equipment Location Percent of Revenue	SCT	95	75
	Client	5	25
Processing Percent of Revenue	Shared	0	25
	Dedicated	100	75
Applications Software Developed by	Client	5	5
	SCT	95	95

The third chart pairing shows a significant change in the mix of shared versus dedicated facilities. This suggests that, as SCT converts ownership of client-owned equipment, it will begin using that equipment for other clients.

The three pairings, taken together, suggest some significant changes in the way that SCT will conduct its systems operations business. However, since it currently supports 41 client-owned data centers and only one vendor-owned data center, some changes would be expected as the business grows.

The fourth pairing in Exhibit SCT-1 shows no expected changes in the software mix. Ninety-five percent of applications software is developed by SCT with the remainder coming from the client. This response indicates that SCT is leveraging its software capabilities to increase its systems operations business.

Exhibit SCT-2 compares the distribution of systems operations revenue under various pricing alternatives. As with the pairings in Exhibit SCT-1, SCT sees significant change in its business share over the next few years. SCT's systems operations revenues will shift from predominantly time and materials to an even mix of fixed price and time and materials.

SCT's IRM division contracts typically cover a three- to five-year period, with an option to renew. SCT derives its systems operations revenue largely from colleges, universities, and other educational institutions, in addition to state and local government agencies.

Exhibit SCT-3 compares systems operations capabilities derived from internal sources versus those derived from alliances. The data suggest that SCT has made limited teaming effort for its systems operations activities. SCT has informal alliances with DEC, Sequent, and Hewlett-Packard to leverage its internally developed applications software. It uses SORBUS for equipment maintenance. SCT apparently has no special arrangements for disaster recovery services.

EXHIBIT SCT-2

Distribution of Revenue

Contract Type	1989 (Percent)	1992 (Percent)	1993 (Percent)
Fixed Price	25	50	75
Time and Materials	75	50	25

SCT has identified proprietary products that give it an edge in bidding systems operations contracts. SCT has developed 4GL custom applications software using Oracle systems software. The products are for the education and state and local government vertical markets, and often are the key differentiators in bids in these industries.

EXHIBIT SCT-3

Capabilities

Internal and Alliances	None
Internal Only	• Business Consulting • Computer Systems Operations • Network Management • Applications Design/Development • Packaged Applications Software
Alliance Only	• Equipment Maintenance
Neither Internal nor Alliance	• Disaster Recovery Service

4. Markets Served

Currently, SCT derives its systems operations business from the education sector, as well as from state and local government clients. SCT currently has a wide range of contracts with revenues averaging around $1 million annually. It focuses primarily on educational institutions, with about 60% of its total revenues derived from colleges, universities, and other educational institutions.

Currently, SCT has no federal systems operations business. Further, there is no indication that it intends to pursue the federal marketplace.

5. Competitive Position

SCT has been providing systems operations support in the educational, and state and local government markets for 23 years. It does not break out systems operations revenues separately. However, as already reported, SCT realized $65.4 million in 1991 revenues, and INPUT estimates that 50% came from systems operations. As SCT develops its systems operations business, it expects its primary competition to come from the following firms: Maxima, Communications Management Systems, Inc., Information Association, and American Management Systems, Inc.

6. Recent Events

In the past year, SCT has continued to position its services business to take advantage of the ongoing trend toward outsourcing. It recently invested in a new name—OnSite Services—and developed a marketing strategy that positioned these services as "the computing management alternative" for higher education and government, as well as related markets. The new positioning established SCT's OnSite services as a solution for the critical challenges in its markets in the 1990s: higher costs, budget constraints, changing demographics, and pressure to provide more services while holding the line on spending.

A second significant development was a major penetration into the utilities (public and private) market, through a program of acquisition of three well-established firms in 1990 and 1991 (see Section 2) in that industry. By establishing a strong position in this market, one allied to the local government market in which SCT is a major player, the company has broadened its horizontal base, consolidating its status as a leading provider in the public sector.

In its software business, SCT has rounded out its line of administrative applications with the introduction of Financial Aid and Human Resources Systems. Financial Aid is a pivotal product in the higher education market because the issue of financial aid affects nearly every college and university student. These products join SCT's Student, Finance and Alumni/Development Systems to form a comprehensive administrative product line. SCT also recently introduced its Finance and Human Resources products into the local government marketplace. The company has announced IntelliQuest™, a natural language query system that allows its BANNER clients to access information from their administrative data bases using plain English queries.

7. Organization

SCT is currently organized into five business units, as described in Section 2.

In addition to the headquarters office, SCT maintains regional offices in Irvine, CA; Dallas, TX; Cleveland, OH; Baton Rouge, LA; Lexington, KY; Columbia, SC; and Hato Rey, Puerto Rico. SCT currently has 1,100 employees engaged in systems operations activities. The bulk of this staff is engaged in four areas:

• Applications Design and Development	30%
• Project Management	25%
• User Support	25%
• Technical Support	20%

8. Systems Operations Alliances

As discussed earlier, SCT has no formal alliance programs for systems operations. However, SCT has used DEC, Hewlett-Packard and Sequent as platforms for SCT software, and Sorbus for equipment maintenance.

INPUT believes that as SCT increases its systems operations activities, alliances with other companies will play a more important role.

9. Systems Operations Marketing Strategy

SCT expects to expand its systems operations business from both its existing client base as well as through new accounts. However, this latter thrust is expected to account for only 10% of new business. The balance will come from existing customers.

SCT expects to receive approximately 10% of its new systems operations business through formal solicitation. Sixty percent of new business, as expected by SCT, will come from direct sales activity. Additionally, SCT expects 30% of new business to come from new contracts with existing clients. This is consistent with its overall plans to expand the contracted work within its current client base.

SCT views itself as being a leading supplier of systems operations activities within its focused markets. The company expects this strategy of targeting two specific industries to give it a competitive edge when competing for systems operations contracts in these markets.

10. Systems Operations Customer Base

SCT currently has 29 education and local government clients for systems operations services. Among its listed clients are:

- Norwich University, Vermont
- University of Richmond, Virginia
- George Washington University, Washington, DC

As the systems operations market continues to evolve, SCT will enter additional vertical markets when it can leverage its current software product investment.

11. Summary and Future Directions

Over its 23 years of providing services to the educational sector and state and local governments, SCT has developed a leadership position, providing systems operations services based on tested applications software packages. INPUT expects SCT's systems operations business to grow slowly but steadily over the next few years, reflecting overall business conditions in the markets in which it participates.

COMPANY PROFILE

Unisys Corporation

1. Key Outsourcing Contacts

The outsourcing activities of the Unisys Corporation are under the direction of Victor Millar, President of Unisys Worldwide Professional Services Organization. All of the outsourcing activities, commercial, federal, and international, are managed on a day-to-day basis by Art Slotkin, vice president of Worldwide Outsourcing. Mr. Slotkin's office is located at:

Unisys Corporation
8008 Westpark Drive
McLean VA 22102

The Outsourcing organization operates as a division of the Unisys Worldwide Professional Services Organization, which in turns reports directly to John Unruh, Chairman and CEO of Unisys.

2. Description of Principal Business

Unisys describes itself as a "total solutions" provider, helping all clients apply technology to improve their competitive position by providing superior support services to its clients. Unisys is increasingly shifting its business focus and direction, redirecting its resources to become a customer-oriented, services-led, technology-based company. Outsourcing is considered an integral part of the Unisys strategy to expand its role as a full service provider to its customers.

From its base as an equipment supplier, Unisys has been changing for the past few years under the guidance of Chairman John Unruh into both an open systems environment and a services-oriented vendor. In 1991, the worldwide revenues for the corporation as a whole were distributed as follows:

- 21% from software and services
- 21% from maintenance
- 20% from custom products
- 23% from mainframes
- 15% from servers and workstations.

The corporate strategy is to shift even more emphasis to the services market by concentrating much of their marketing and business development efforts on the outsourcing and systems integration opportunities available to Unisys.

The Unisys 1991 corporate revenue was derived from certain key markets. As reported in the December 1992 of Electronic Business, the split was as follows:

- Government and defense - 33%
- Financial services - 25%
- Industrial accounts - 20%
- Travel and telecommunications - 4%

The final 18% is derived from what is described by Unisys as custom products.

By targeting the markets they know best, Unisys expects to be able to shift more of its revenue to the services sector even more rapidly.

The outsourcing business at Unisys has the revenue characteristics presented in Exhibit UN- 1.

EXHIBIT UN-1

Outsourcing Revenue

Type of Revenue	1991 ($M)	1992 ($M)
Commercial	63	92.5
Federal	94	115.5

The company estimates that the commercial outsourcing market is growing at a compound annual growth rate (CAGR) of 25% while the federal market is only growing at 15% . It also expects before-tax profit margins decreasing in both markets from their current rates of 20% in the commercial and 11% in the federal market.

3. Outsourcing Offering Characteristics and Capabilities

Exhibit UN-2 compares the mix of outsourcing revenues for Unisys from among the various components of the outsourcing market. Note that their federal business has very different characteristics than their commercial business.

On the commercial side, the current mix is heavily weighted towards platform operations, with only a small percentage to network management, desktop services, and applications management. However, they do not yet have any applications development business. On the federal side, they do a large amount of applications management with some small amount of applications development. They do not do desktop services work for the federal government, though they are reporting that a small part of their revenue can be attributed to this on the commercial side.

Unisys indicates they have been in the federal outsourcing market for over 30 years, and in the commercial market for the past four years.

EXHIBIT UN-2

Outsourcing Revenue Distribution

Function Provided	Proportion of Revenue (Percent)	
	Commercial	Federal
Platform Operations	75	20
Applications Operations	5	10
Network Management	5	10
Desktop Services	5	-
Applications Maintenance	10	50
Applications Development	-	10

Exhibit UN-3 illustrates the distribution of Unisys contracts under various pricing alternatives. Both the mix in 1992 and Unisys's estimate of what that mix will be in 1995 are illustrated.

EXHIBIT UN-3

Distribution of Contracts

Type of Pricing	Proportion of Contracts (Percent)	
	1992	1995
Fixed Price	10	45
Transaction Priced	5	5
Resource Utilization Priced	-	10
Cost Plus Fixed Margin	85	40

The pricing mix reflects the large number of federal contracts that Unisys still holds. Many of those are cost plus fixed fee contracts, a widely used method of pricing for large Federal contracts. The shift away from these reflects Unisys's expected shift to a larger portion of commercial contracts.

The strong projected increase in fixed price contracts mirrors what INPUT is hearing from other vendors in the market, namely, that they expect fixed price contracts to increase as a percent of the total. Clients seem to prefer this type of contract because the IS budget is more predictable.

The range of contract durations is presented in Exhibit UN-4. Once again, there is a big difference between what Unisys experiences in the federal market versus what goes on in the commercial market.

EXHIBIT UN-4

Distribution of Contract Duration

Contract Life	Commercial	Federal
1 to 3 years	45	
4 to 6 years	35	100
7 to 9 years	5	
10 years and over	15	

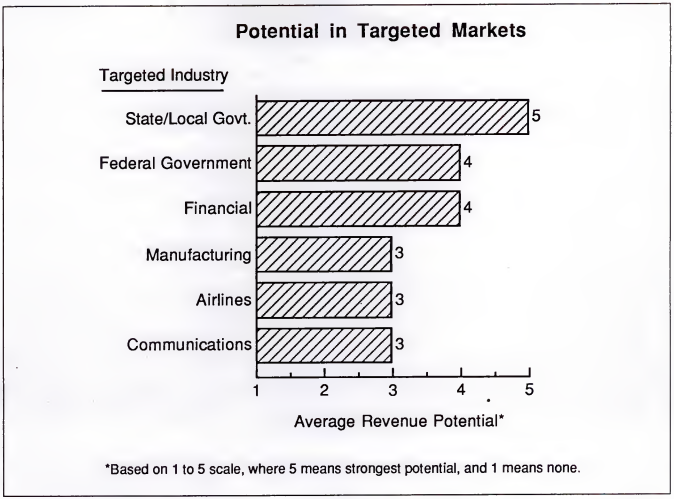
Their mix in the commercial market does seem to be more skewed to the short duration contract than many of the other vendors. This is because they have only been in the commercial outsourcing market for four years and some of their contracts are for transition outsourcing, which are traditionally of shorter duration.

4. Markets Served

Unisys was asked to identify its targeted markets and assess the revenue potential of each market. The results of that discussion are illustrated in Exhibit UN-5.

The mix of industries targeted by Unisys are those in which it has an acknowledged presence already and in which it has developed both a good reputation and a body of industry expertise. As mentioned earlier, they have extensive experience in the federal market and acquired experience in the financial market from its Burroughs-acquired base.

EXHIBIT UN-5



Its assessment of the state and local market as a high potential market is in keeping with the current strong indications that this market is ripe for rapid expansion. The states and municipalities need to meet increasing public data requirements as well as to implement responsibilities shifted down to the state level from the federal government over the last few years.

It has a presence in the manufacturing, airlines and communications market already and indicates it will continue to pursue these markets as well as seek new opportunities in as yet unidentified markets as the opportunity presents itself. It states that the criteria for opportunity selection will be based on an assessment of the market potential and the profit contribution that an opportunity presents.

5. Competitive Position

The company has two sets of competitors to consider as it pursues additional business. Exhibit UN-6 identifies who Unisys considers to be its prime competitors in the federal and the commercial market.

EXHIBIT UN-6

Prime Competitors

Market	Competitor
Federal	CSC
	Martin Marietta
	EDS
	PRC (Black & Decker)
	BDM
Commercial	EDS
	ISSC
	Andersen

- Unisys obviously views itself as a major player in the outsourcing market, both in the federal and the commercial arena. It has identified some of the major players as its competition in each market.

As they continue their drive to change from a mainframe vendor to an open systems services company, they will need to compete on turf where they do not have the advantage of incumbency. All indications are that they are reorganizing and refocusing their business development forces to do just that.

6. Recent Events

- In July of 1992, Unisys and Ferro AB of Sweden, a group of companies that market hardware products and building supplies, concluded a five-year, $13 million IS outsourcing contract. It is estimated that this contract will save Ferro between $3.3 and $4.9 million during the five-year period.

- In August, 1992, Unisys won a $201 million contract from the Dept. of Transportation to provide information services, operations research, and engineering support at the Volpe National Transportation Systems Center through 1997.

- In September 1992, Unisys and the California Republic Bank announced an agreement for a ten-year IS outsourcing contract valued at $56 million.

Unisys assumed responsibility for all of CRB's information systems functions, including check-processing, applications support, data communications, and workstation support.

- In January, 1993, Unisys signed a ten-year, $47 million cooperative information technology services agreement with ISSC to operate a data center as part of ISSC's ten-year $3 billion outsourcing agreement with the McDonnell Douglas Corporation.

- In March of 1993, Unisys and Chase Manhattan Bank announced a five-year, $8 million contract for operations support, systems development and contingency backup. Under the agreement, Unisys will assume responsibility for check-processing disaster recovery services to Chase from the bank's Lake Success NY facility.

7. Organization

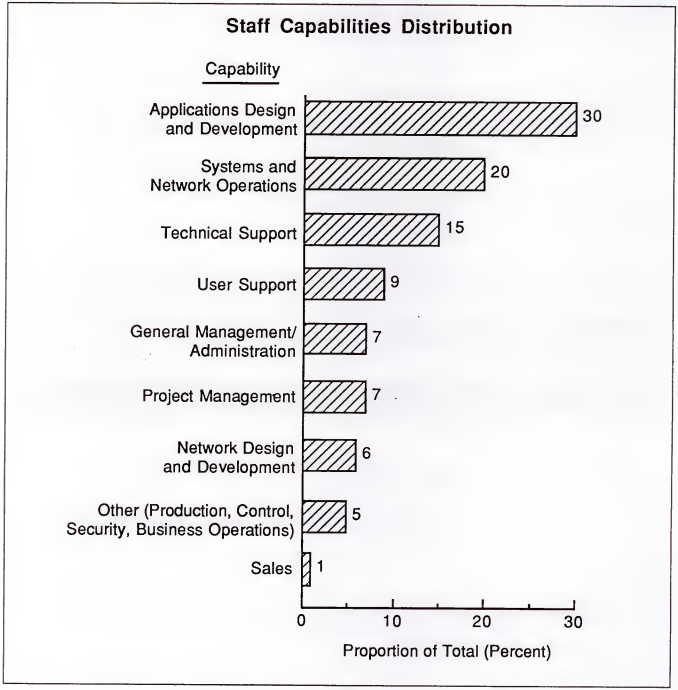
As previously mentioned, the outsourcing operations at Unisys are under the direct management of Arthur Slotkin, who has responsibility for both the federal and the commercial markets. He reports directly to Victor Millar, President, Unisys Worldwide Professional Services. This reporting structure assures that the outsourcing business has top management visibility.

Currently Unisys has approximately 7000 people devoted to the outsourcing business. Of that group, 90% are currently devoted to the Federal market and 10% are working on commercial business outsourcing development and support activities.

The distribution of these personnel by key staff capabilities is presented in Exhibit UN-7 below. There is an unusually high portion of the staff devoted to applications design and development. This reflects the high level of applications maintenance activity reported in an earlier chart in the federal outsourcing contracts that Unisys holds.

The sales level is adequate but probably low for a commercial operation. Unisys will probably have to increase its sales staff to successfully compete in the commercial market. As expected, the operations support, technical support and user support groups represent a large component of the total organization. These are the components that directly interact with the outsourcing client.

EXHIBIT UN-7



8. Outsourcing Alliances

Unisys does not have long-standing alliances with any vendors as yet, relying on a bid-specific alliance to bring to bear the proper resources demanded by each situation. They are close to forming more formal alliances with some management consulting and process re-engineering

firms to supplement their own capabilities in the "front end" of the services business.

The responses in Exhibit UN-8 identified whether or not Unisys had its own capabilities or relied on alliances. These illustrate where Unisys will be likely to form alliances:

EXHIBIT UN-8

Capabilities Assessment

Capability	Exists	Alliance
Business Management Consulting	N	Y
Business Process Consulting	N	Y
Computer Systems Operations	Y	N
Network Management	Y	Y
Applications Design/Development	Y	Y
Applications Maintenance	Y	Y
Packaged Application Software	Y	Y
Disaster Recovery Service	Y	Y
Installation Services	Y	N
Equipment Maintenance	Y	Y
LAN Installation/Administration	Y	N

The responses indicate that Unisys has almost all the capabilities it needs internally except for the "front end" consulting skills, which it will form alliances to acquire. It also will supplement its own capabilities with alliances whenever necessary. That usually occurs when there is a need to provide local presence in an area not normally serviced by Unisys, for example, in equipment maintenance. They also may need to provide

applications development support at a peak level for a short time and will supplement their own staff in this instance.

9. Outsourcing Market Strategy

As mentioned above, Unisys is concentrating on the five or six vertical markets that they have been successful in. They know the needs of the prospects in these industries and can demonstrate success there.

They have identified certain proprietary products that they feel enhance their outsourcing capabilities in their selected markets. These include:

- A Series /1100-2200 mainframes
- IIPS (Imaging) systems
- PALS library applications

In addition, Unisys has adopted a strategy of assimilation of client assets whenever that is required. Thus, they will assume responsibility for equipment and/or personnel when the conditions warrant it. Exhibit UN-9 illustrates the current contract mix in terms of asset acquisition:

EXHIBIT UN-9

Asset Acquisition

Asset Type	Proportion of Contracts (Percent)
Equipment	30
IS Staff	75
Others (buildings, etc.)	10

Looking at another aspect of the market strategy, Unisys estimated how the value of their contracts was distributed in terms of products and services. The following percentages were derived:

Professional services	80%
Equipment	10%
Application software	5%
Systems software	5%

It is evident that Unisys sees its future as a services company. It does not see outsourcing as a channel protector to preserve the existing equipment base, but rather as an opportunity to convert itself to a full-services provider, providing a high level of customized professional services.

10. Outsourcing Client Base

Unisys's client base consists of approximately 22 commercial accounts and 11 federal contracts. The average size of the commercial account is $15 million while the federal contracts average $45 million. This demonstrates the relative attractiveness of the Federal market for Unisys. The stiff competition and dwindling opportunities in this vertical market have caused Unisys to shift its emphasis, as have many other vendors, particularly systems integrators.

When asked what percentage of their outsourcing business came from their current base, Unisys indicated that all of their commercial outsourcing business comes from their existing client base and that 80% of their Federal business comes from the existing client base. This reflects the fact that Unisys has chosen to concentrate, wisely so, on markets in which it already has a strong market position. This mix will change as they gain both in confidence and reputation in the commercial marketplace and expand to new clients.

As expected, the response to how they acquire their business paralleled the above response. Their commercial business is acquired, in 95% of the cases, by signing new contracts with their existing clients. In only 5% of the commercial cases do they have to respond to RFPs. The reverse is true in the case of federal contracts because all contracts in the outsourcing category are large enough to require competitive responses to RFPs.

11. Emerging Market Plans

This year's survey began probing how the vendors view two emerging outsourcing markets, namely, transition outsourcing and business process outsourcing.

Unisys has experienced some increase in the demand for transition outsourcing, where the client turns over operation of the current systems to the vendor while the new systems are being developed. It currently represents about 20% of their business and is growing. Clients are moving increasingly to client/server environments and are taking advantage of the operations experience of outsourcing vendors to run their existing systems, in Unisys's opinion.

Unisys estimates that about 5% of their business is business operations outsourcing, where they are performing entire business functions for the client. They see this market as growing over the next few years, as businesses who have successfully outsourced parts of their operations look for other operations or functions to outsource.

12. Summary and Future Directions

Unisys has been identified as a corporation that has made the successful turnaround back to profitability in the past year. The series of actions that accomplished this included a conscious shifting of the company focus to a "full service" vendor. This concept embodies providing the very services

that an outsourcing vendor is typically required to provide to its clients. The thrust to expand the outsourcing business at Unisys is thus in line with the major management focus to concentrate on the services business.

Unisys has made a few strategic hires from outside its own ranks which have brought a new service perspective to what had previously been a hardware orientation. This new perspective seems to have been effectively blended with a dose of technical and operational expertise acquired on large government contracts.

The two components seem to be blending successfully. Unisys has experienced a recent series of outsourcing wins. They have capped that with a strategic teaming arrangement with ISSC on the massive McDonnell Douglas contract and seem poised to close more such deals.

The prospects for Unisys are good for the next few years. They need to pursue their open architecture model and avoid the easy trap of concentrating on prospects that are currently Unisys clients. Now that they have successfully become profitable again, they can apply the resources they have to expand both their outsourcing and systems integration markets here and abroad in markets where they have already been successful.

COMPANY PROFILE

Ziff Information Services (ZIS)

1. Key Systems Operations Contracts

The commercial and federal systems operations activities of Ziff Information Services are under the direct supervision of Thor Olson, President of Ziff Information Services (ZIS). He is located at

10 Presidents Landing
Medford, MA 02155

2. Description of Principal Business

Ziff Information Services was founded in 1979 by Ziff Publishing Company, which is now known as Ziff Communications Company. Ziff Communications has over 50 years experience as one of the top business and commercial publishers in the U.S.

Ziff Information Services specializes in assisting companies in making large amounts of information available on-line either through third-party suppliers or through Ziff facilities.

3. Systems Operations Service Characteristics and Capabilities

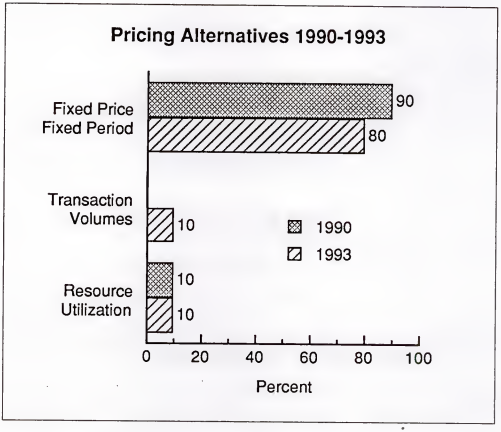
Ziff Information Services has over 12 years experience in the commercial systems operations market.

The company currently operates five client-owned data centers and one company-owned data center. In 1990 Ziff obtained 95% of its revenue from company-owned facilities and equipment dedicated to, in most cases, a single client. In 50% of the contracts the applications software was developed in-house while 5% was developed by a third party.

Ziff believes these ratios will remain relatively stable through 1993 with only a 5% margin of change, since it expects new clients to opt for processing at Ziff's site or on equipment owned by Ziff.

Most of its contracts, approximately 70%, are from three to four years in length, while 20% last over five years. Exhibit Ziff-1 lists how Ziff's pricing alternatives will change from 1990 to 1993.

EXHIBIT ZIFF-1



4. Markets Served

Ziff currently provides systems operations services to 12 commercial clients. The average annual contract value is approximately $500,000.

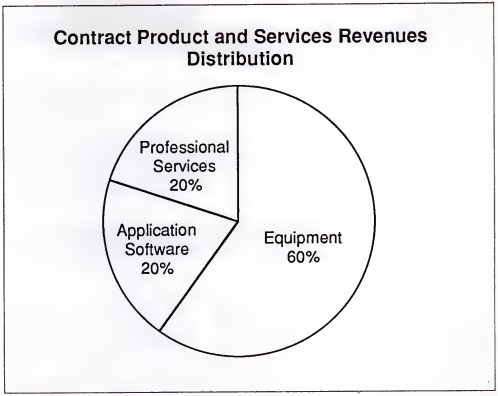
Exhibit Ziff-2 identifies the distribution of contract product and services revenues. Note that 60% of the revenues are derived from processing services on DEC equipment, with the other components being provided equally by application software and professional services. This indicates that ZIS is primarily a platform operations vendor, as currently configured.

5. Competitive Position

Ziff Information Services has been active in the commercial systems operations arena for 12 years. The company considers its only commercial competitor to be the client's internal Information Systems Group.

Historically, most of ZIS' systems operations business has come from the financial services and banking industries, industries where the dissemination of large amounts of information on an on-line basis is critical. This is a particular area of expertise at Ziff Information Services.

EXHIBIT ZIFF-2



6. Organization

Systems operations is a major line of business for the Information Services Group. Ziff has allocated 45% of its commercial employees to systems operations.

Ziff also stated that it has not yet hired the employees of the companies with which it has contracts. However, it is fully prepared to do so in the appropriate marketing situation.

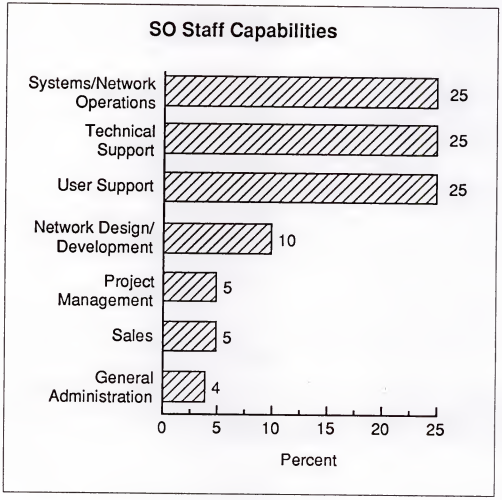
Exhibit Ziff-3 identifies the company's systems operations staff capabilities. Over 50% of the staff is assigned to client interface functions; i.e., technical support and user support. Another 25% is dedicated to system and network operations, indicating a large component is directly involved in client operations on a day-to-day basis.

7. SO Alliances

Ziff Information Services indicates that it does not yet have a formal alliance program for systems operations. It does, however, indicate that it establishes non-competitive alliances with other SO companies such as IBM, DEC, and other third-party DEC application software developers.

The company also indicates that it solicits alliances with companies to obtain the following capabilities:

EXHIBIT ZIFF-3



- Computer systems operations
- Network management
- Applications design/development
- Applications maintenance

8. SO Marketing Strategy

Ziff indicates that approximately 50% of tis new contracts are a result of proactive sales activity, while the other 50% is solicited from existing clients. While the company has traditionally focused on systems operations vertical markets, primarily financial and banking, it plans to expand into functional markets as well by providing a full range of applications software and services.

9. SO Customer Base

In January 1992 Ziff announced an agreement with SEC online to provide processing and maintenance of a host service. Under this agreement full text data from SEC online will be available to businesses via a private online host service using ZIS' electronic publishing software. SEC online consists of business and financial information contained in reports filed by over 2,000 companies.

In February 1992 ZIS announced that it will provide processing and maintenance of a host service for Dun & Bradstreet's Market Identifiers. Under the agreement Dow Jones news/retrieval customers using Duns Market Identifiers will access the information through a transparent gateway for Dow Jones News Retrieval to ZIS' Medford, MA VAX computing center where the database is maintained.

Ziff's largest client is a well-known purveyor of federal logistics information. Under this agreement, ZIS provides platform and network operations. All of its software resides on Ziff systems.

Another client is a large financial software company, which has contracted Ziff to provide computer operations and software development as well as communications support.

Ziff currently operates an on-line election campaign financial information system for the Federal Election Commission.

10. SO Summary and Future Direction

Ziff Information Services has been providing a unique service offering as a DEC-based systems operations outsourcing vendor. It has also been responsible for providing internal processing to Ziff Communications, its parent organization. Recent changes in emphasis indicate that Ziff is becoming more aggressive in its pursuit of the DEC-based outsourcing opportunities. As the outsourcing market grows in general, the DEC-based portion should grow proportionately. Ziff's strong presence bodes well for future revenue growth.

IS Outsourcing Vendor Profile Questionnaire

The following INPUT definitions of outsourcing and its components should be kept in mind as you answer the questions that follow:

Outsourcing—Contracting for all or a major portion of an information system function or process to a vendor on a long-term basis.

Outsourcing can include any or all of the following elements:

Systems Operations—Contracting out, to a vendor, the information systems operations in either of two ways:

> *Platform Systems Operations*—The vendor is responsible for managing the computer systems and their associated networks.
>
> *Applications Systems Operations*—The vendor is responsible for developing and/or maintaining a client's applications software as well as operating and managing the computer systems and their associated networks.

Network Management—Contracting to a vendor for the operations and management of the computer-related telecommunications network, transmitting data, voice, image, text, local-area, and wide-area networks. Voice-only network operations are not part of information systems outsourcing.

Desktop Services—Contracting out to a vendor for the deployment, maintenance, support, and connectivity of the firm's PC/workstation inventory. The service may also include performing the help desk function.

Applications Management—The vendor is responsible for all the development and maintenance of all the applications systems a client uses to support a business operation.

Applications Development—Contracting out for the design, development, and long-term maintenance and enhancement of new applications software associated with a business operation.

Application Maintenance—Contracting out only for the maintenance of the existing applications software associated with a business operation.

Background/Strategy

1. How long has your company been in the commercial and/or federal outsourcing markets?

   Commercial _____ (years) Federal _____ (years)

2. a) If currently not participating in both commercial and federal markets, does your company plan to expand into both in the next few years?

	Y/N
New expansion into commercial	_____
New expansion into federal	_____

   b) What factors have influenced this expansion?

   _____

   _____

   _____

3. What type of vendor would you classify your company as, and how does outsourcing fit in the company's operations and strategy?

   _____

   _____

   _____

4. Please estimate what percent of your company's outsourcing revenue comes from the following functions:

Function	Percent Commercial	Federal
Platform Operations	____	____
Applications Operations	____	____
Network Management	____	____
Desktop Services	____	____
Applications Maintenance	____	____
Applications Development	____	____

5. Please provide an estimate in Column 1 of the percent of your current outsourcing contracts under each of the pricing alternatives listed below. In Column 2, give an estimate of this mix in 1994.

	Percent 1992	1994
Fixed price for a fixed period	____	____
Charges based on transaction volumes	____	____
Charges based on resource utilization	____	____
Cost-plus a predefined margin	____	____
Other (Specify):	____	____
_____	____	____
Combinations (Specify):	____	____
_____	____	____
TOTAL	100	100

6. What percent of your commercial and federal outsourcing contracts have durations in the ranges listed below?

	Percent Commercial	Federal
1 to 3 years	____	____
4 to 6 years	____	____
7 to 9 years	____	____
Over 10 years	____	____
TOTAL	100	100

Organization and Responsibilities

7. Does your company consider outsourcing to be a major source of revenue?

   Yes _____ No _____

8. Is your outsourcing organization a subsidiary, separate division, or a major line of business?

Subsidiary	____	____
Division	____	____
Major Line of Business	____	____

9. To whom does the outsourcing organization report in the parent organization?

   Name _____

   Title _____

10. Please give the name and title of the top executive in your outsourcing organization. If commercial and federal operations are separate, please provide the requested information for both.

	Commercial	Federal
Name	_____/	_____
Title	_____/	_____
Address	_____/	_____
		_____

11. Would you provide an organization chart for your outsourcing organization?

_____ Yes/No. If yes, please include the organization chart with this questionnaire when you return it to INPUT.

12. How large a staff is currently employed in your outsourcing business? If commercial and federal businesses are separate, please identify the percent of personnel allocated to each.

Total full-time staff	_____
Percent Commercial	_____%
Percent Federal	_____%

13. The following table identifies key staff capabilities required by outsourcing firms. Please indicate the percentage of your total staff associated with each category.

Capability	Percent
General management and administration	_____
Project management	_____
Applications design and development	_____
Network design and development	_____
Systems and network operations	_____
Technical support	_____
User support	_____
Sales	_____
Other (Specify)	_____
_____	
TOTAL	100

Current Customer Base

14. Approximately to how many clients do you currently provide outsourcing services?

    Commercial _____ Federal _____

15. What is the average *total* contract value?

    Commercial _____ Federal _____

16. What is the rough distribution of the products and services values in your company's outsourcing contracts? (Column entries should add to 100%.)

Professional	____
Equipment	____
Application software	____
Systems software	____
Other (Specify) _____	____
TOTAL	100

17. Please describe any recent events such as mergers/acquisitions or major contracts that have occurred in your outsourcing business.

Financial Characteristics

18. Please complete the following revenue table.

	Revenue ($M) 1991	1992
Commercial outsourcing	_____	_____
Federal outsourcing	_____	_____

19. What do you estimate as the compound annual growth rate (CAGR) for the outsourcing industry over the next 5 years?

Commercial _____ % Federal _____ %

20. Are outsourcing before-tax margins increasing (I) or decreasing (D)?

Commercial_____ (I/D) Federal_____ (I/D)

21. What have been the recent before-tax profit (loss) margins for your outsourcing business?

Commercial _____ % Federal _____ %

Strategy and Markets

22. Are there specific markets on which you focus your outsourcing activities? Are these vertical industry, functional, or other markets?

Vertical _____

Functional _____

Other _____

23. Please list the vertical, functional, or other markets targeted in your company's outsourcing business and rate each one on a scale of 1 to 5 in terms of revenue potential for your company.

Market	Rating
_____	1 2 3 4 5
_____	1 2 3 4 5
_____	1 2 3 4 5
_____	1 2 3 4 5
_____	1 2 3 4 5
_____	1 2 3 4 5

24. Does your current strategy include expansion in your existing market(s) and/or entry into new vertical or functional markets?

Expansion in current market(s) _____ (Y/N)

Entry into new markets _____ (Y/N)

25. What selection criteria do you use for identifying new target markets?

_____

_____

_____

_____

_____

26. What percent of your annual outsourcing business comes from your current base, as opposed to new accounts?

	Percent Commercial	Federal
From existing client base	____	____
New accounts (solicited for SO)	____	____
Other (Specify)	____	____

_____

27. What percent of your new contracts are a result of the following:

	Percent Commercial	Federal
Responding to bid solicitations or RFPs	____	____
New contracts with existing clients	____	____
Proactive direct sales activity	____	____
Other (Specify)	____	____

_____

28. Who do you consider your primary competitors in the outsourcing business?

Commercial	Federal
_____	_____
_____	_____
_____	_____

Capabilities/Products

29. The following list identifies major capabilities that are required to deliver IS outsourcing services.

Please indicate in Column 1 if your organization has the internal capability to deliver that service (Y for yes and N for no). In Column 2, indicate (Y or N) if you use alliances or partnerships with other companies to provide this capability.

	Col. 1 Exists	Col. 2 Alliances
Business Management Consulting	____	____
Business Process Consulting	____	____
Computer Systems Operations	____	____
Network Management	____	____
Applications Design/Development	____	____
Applications Maintenance	____	____
Packaged Applications Software	____	____
Disaster Recovery Service	____	____
Installation Services	____	____
Equipment Maintenance	____	____
LAN Installation/Administration	____	____
Other (Specify):	____	____

_____

30. Briefly describe how you use alliance to support your company's outsourcing business.

31. Please identify any alliances that your company has established for the outsourcing business and the purpose of these relationships.

Company	Purpose of Relationship

32. If you have proprietary technologies, products, or services that enhance your outsourcing capabilities, please identify them below and describe the advantage they provide:

Product/ Technology/ Service	Advantage Description

33. What major trends in the user community do you believe are motivating growth in the outsourcing market?

34. Please estimate what percent of your contracts have included the assimilation of the following:

	Percent
Equipment	____
IS staff	____
Other assets	____

35. INPUT has identified a new type of outsourcing we call *Transition Outsourcing* where the services of a vendor are required to operate the current IS environment while the client's internal IS staff is developing new systems or applications. What percent of your contracts involve *Transition Outsourcing?* Do you see this portion of your business growing?

_____ %

Growing _____ (Y/N)

Why? _____

36. INPUT has identified a new trend in outsourcing we call *Business Operations Outsourcing* where a vendor will take over a client's entire business function including non IT-related functions (such as claims adjustment, accounting, or complaint resolution). What percent of your contracts involve *Business Operations Outsourcing?* Do you see this portion of your business growing?

_____ %

Growing _____ (Y/N)

Why? _____

(Blank)